

Fig.1

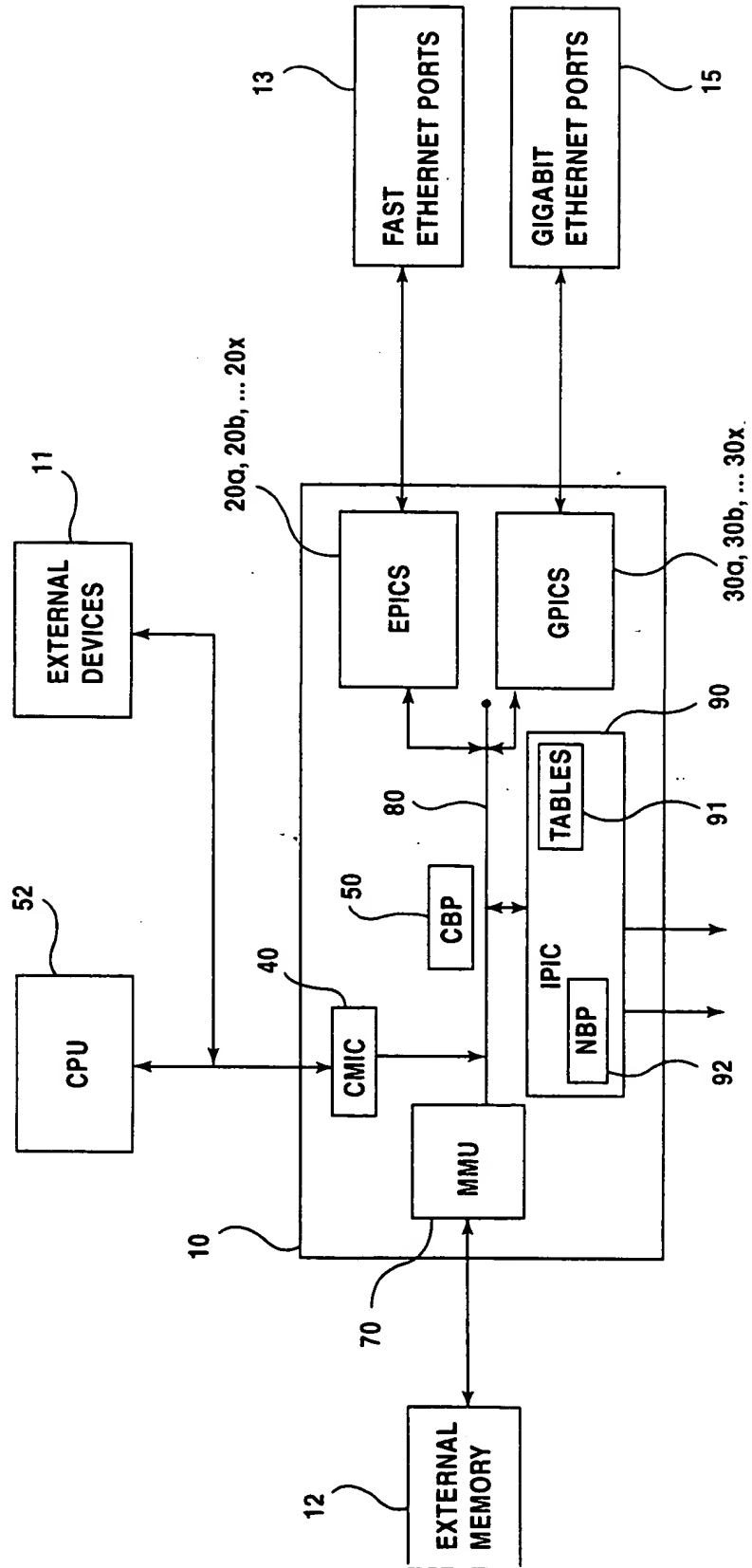


Fig.2

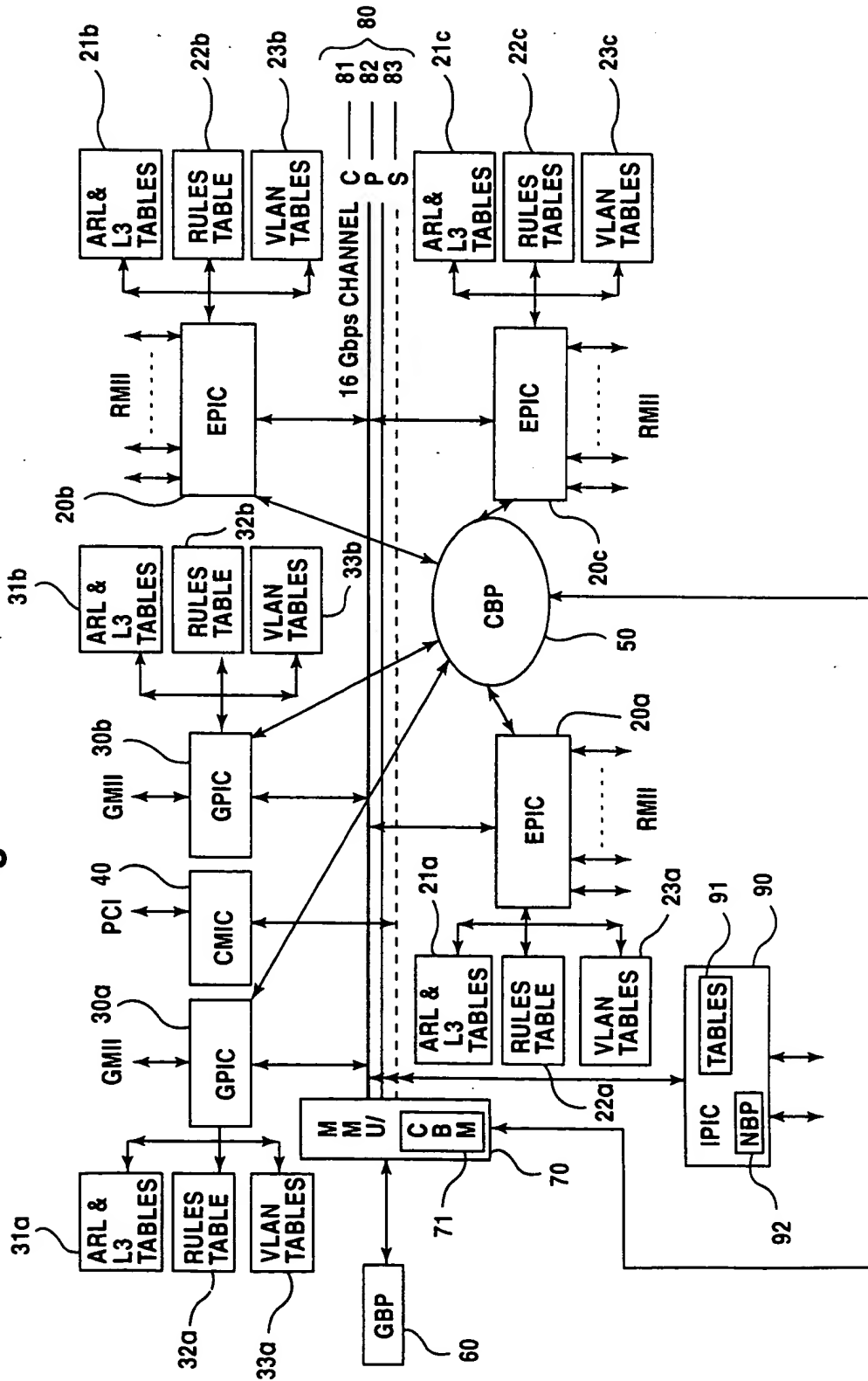
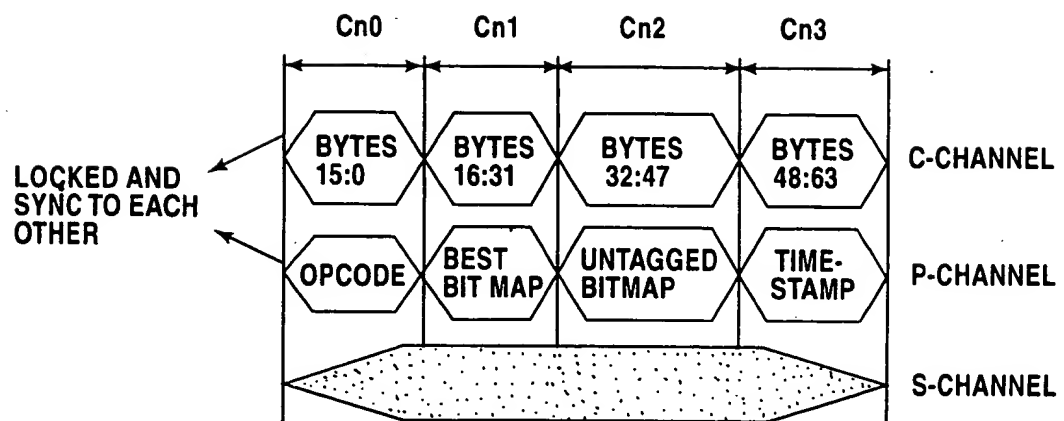


Fig.3



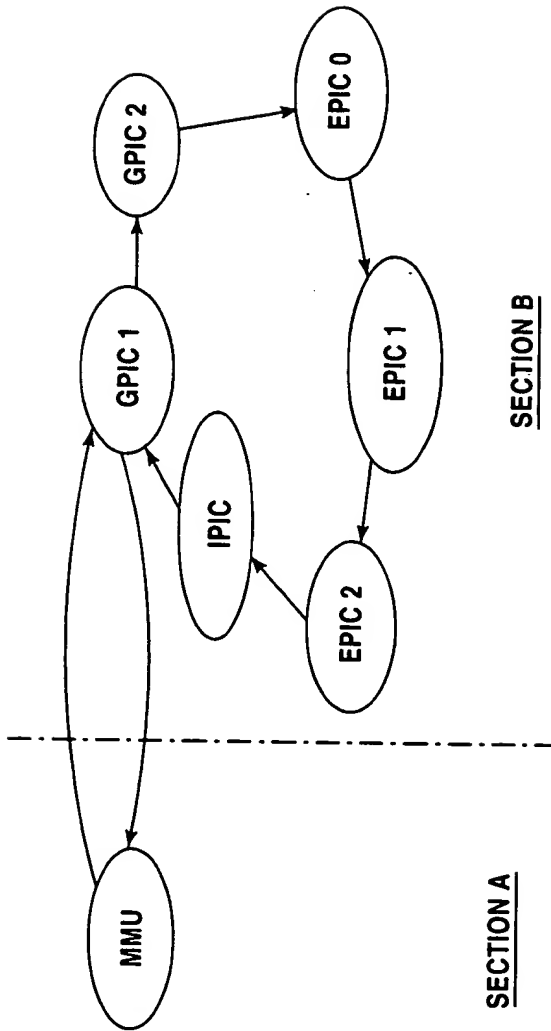


Fig.4a

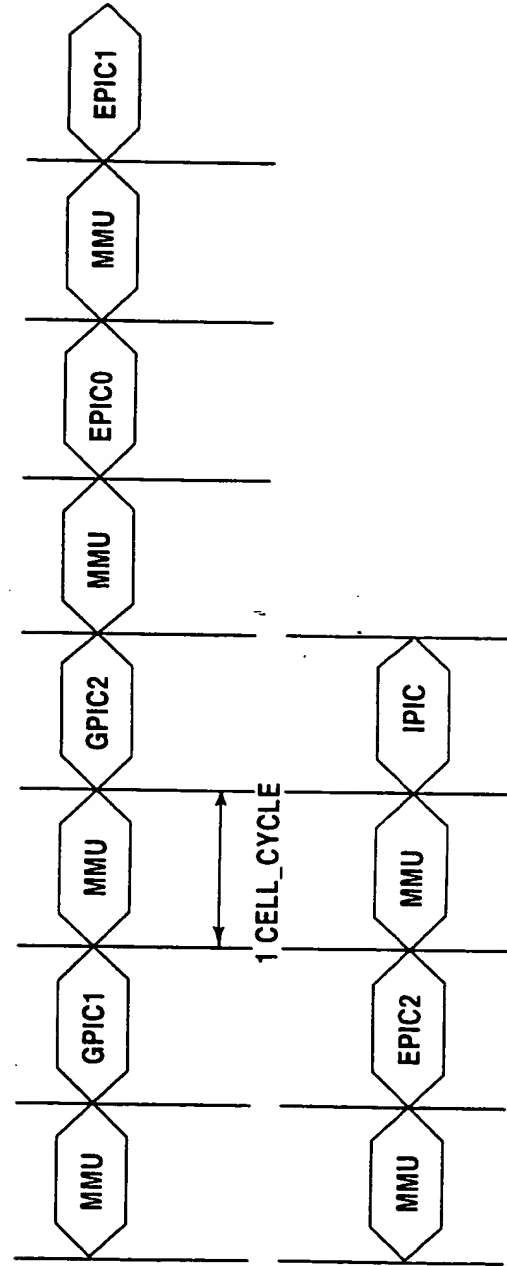


Fig.4b

PROTOCOL CHANNEL MESSAGES

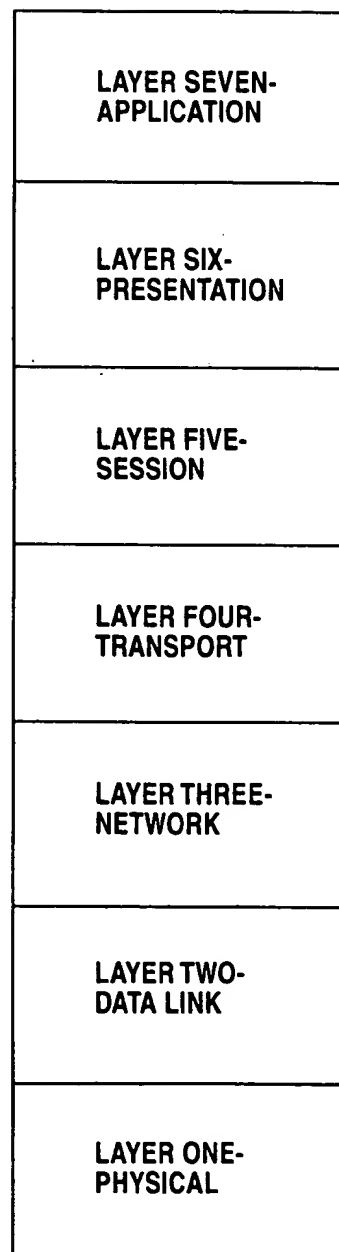
62	60	58	56	54	52	50	48	46	44	42	40	38	36	34	32
R	L3 PORT BITMAP														

Fig.6

SIDE BAND CHANNEL MESSAGES															
30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
OPCODE			DEST PORT / DESTINATION DEV ID			SRC PORT			DATA LEN			E	EC ODE	COS	C
ADDRESS															
DATA															

00577 "DET260" 11500

PRIOR ART



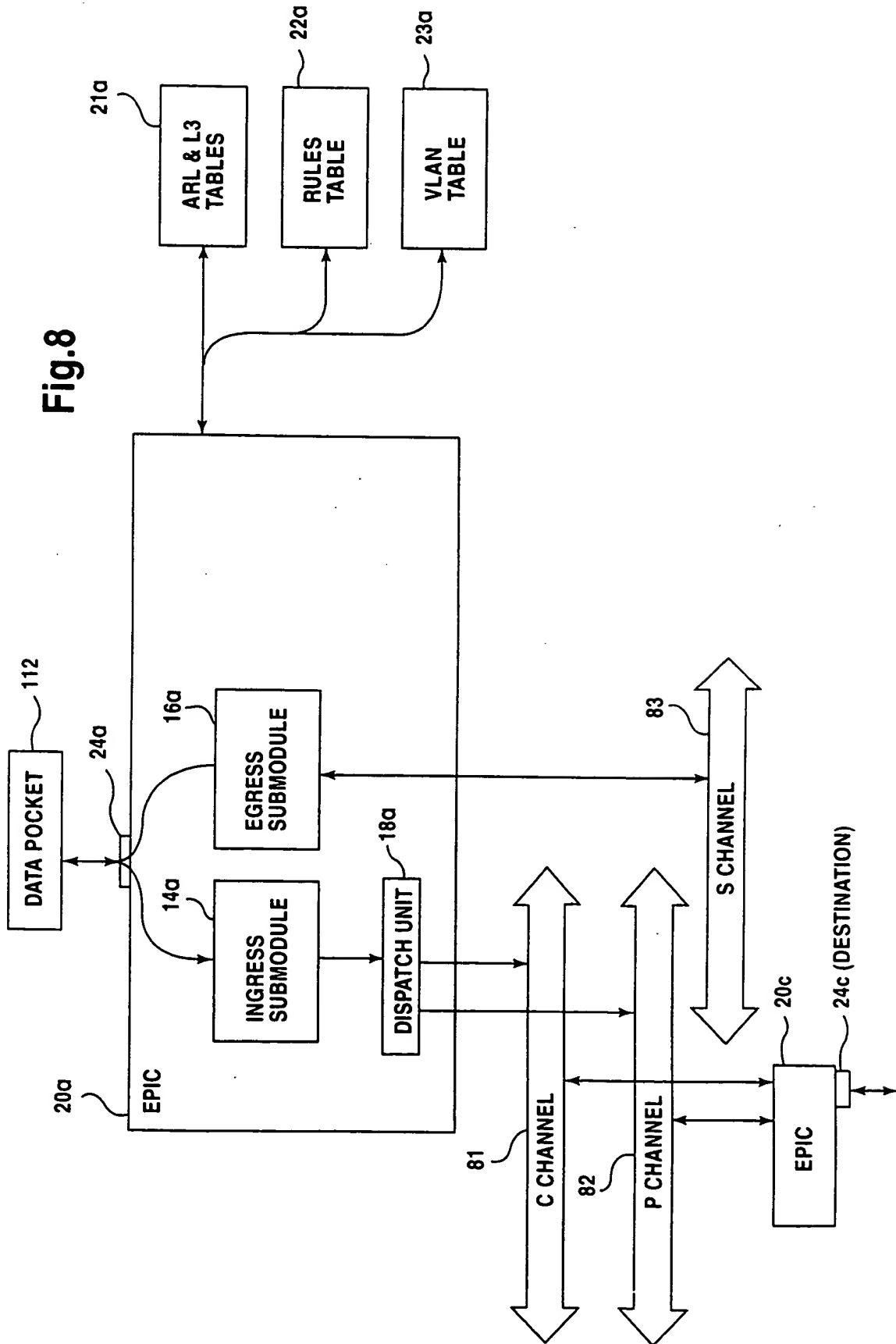


Fig.10

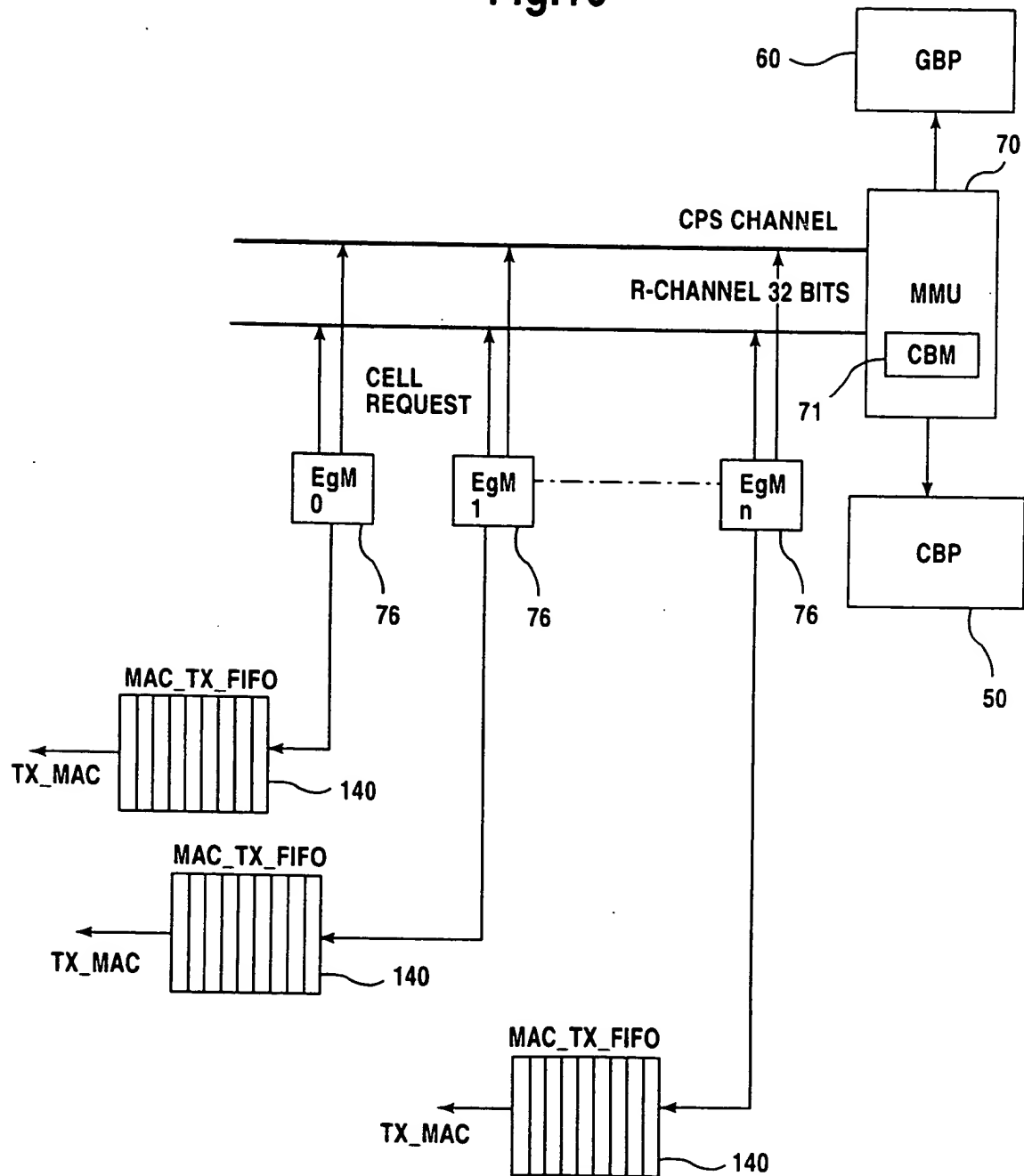


Fig.11

LINE 0 →	FC LC BC/MC Cpy_cnt (5b) Cell_length (7b) CRC (2b) NC_header (16b) Src Count (6) IPX IP Time_Stamp (14b) O bits (2b) P NextCellLen (2b) CpuOpcode (4b) Cell_data (0-9B)
LINE 1 →	Cell_data (10-27) Bytes
LINE 2 →	Cell_data (28-45) Bytes
LINE 3 →	Cell_data (46-63) Bytes

Fig.12

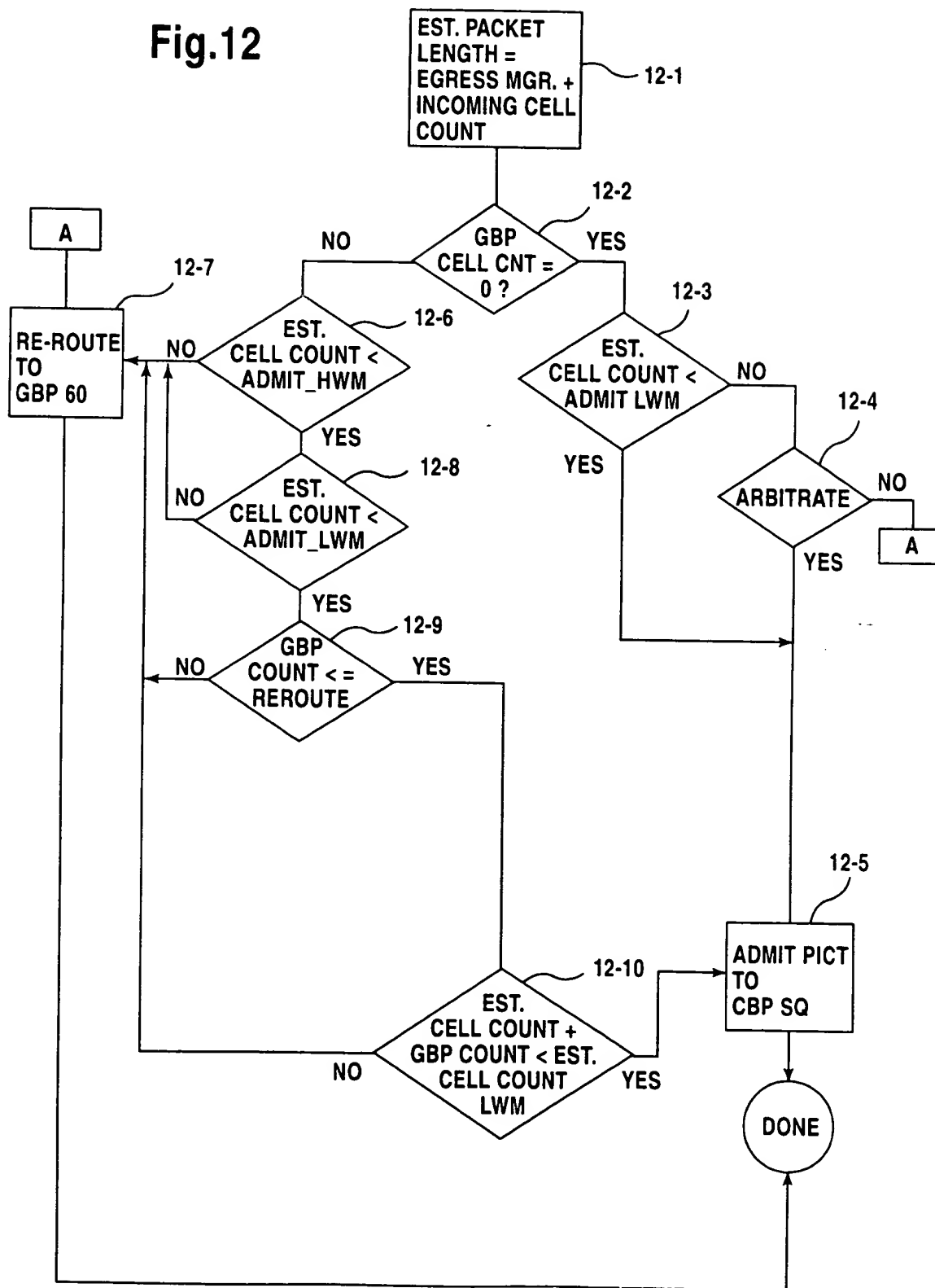
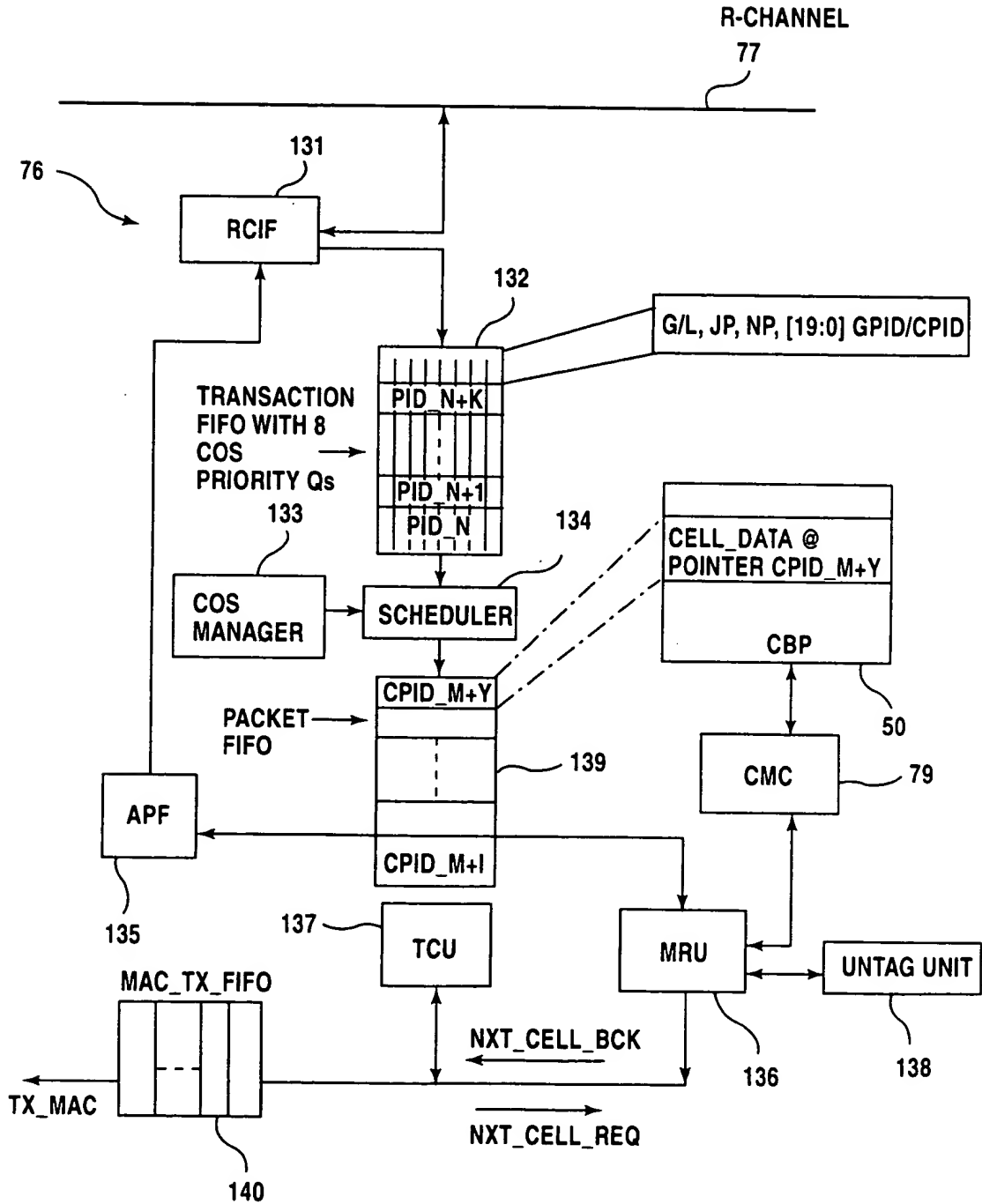


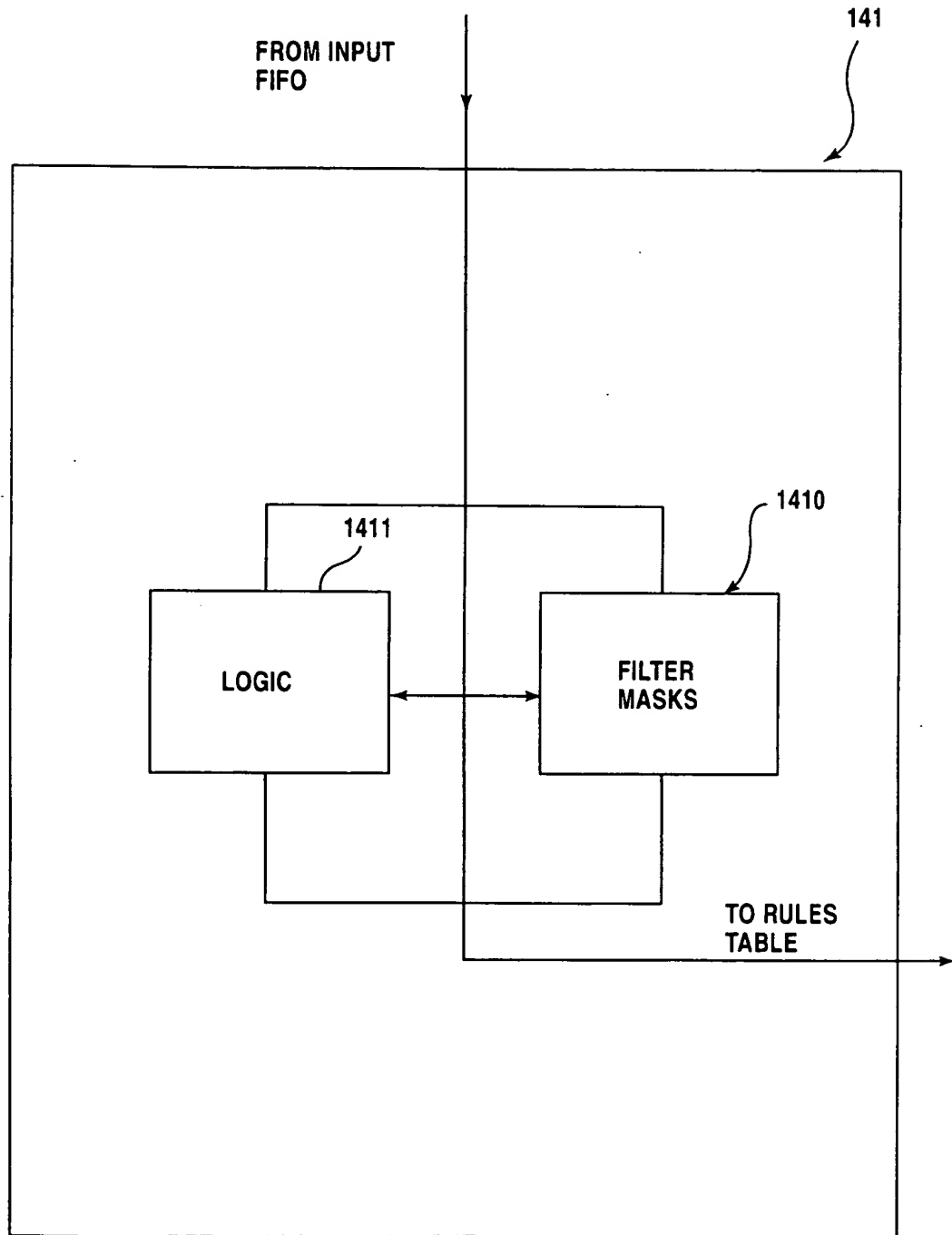
Fig.13



DIVERSITY



Fig.15



DOCID: 260

Fig.16

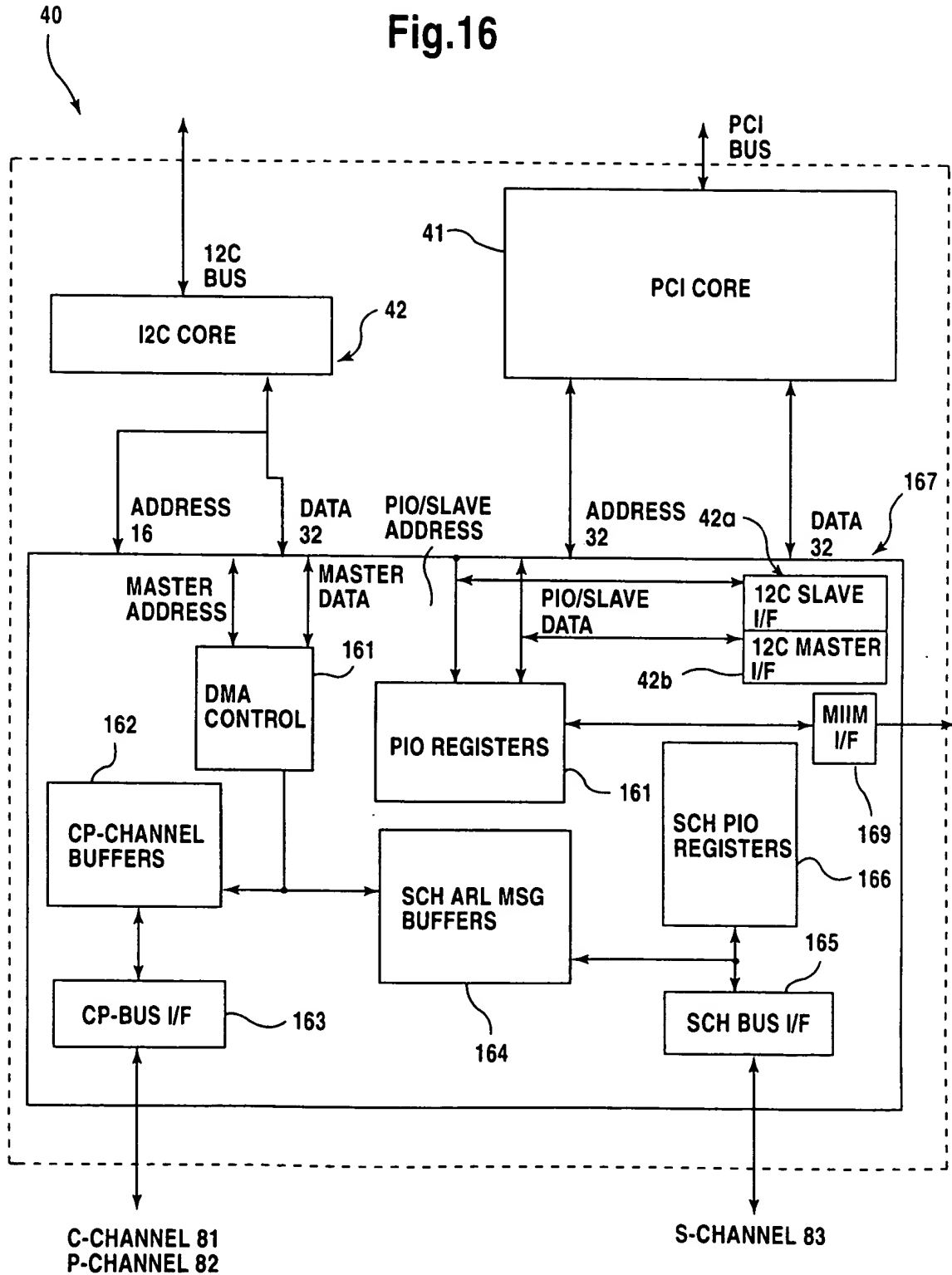
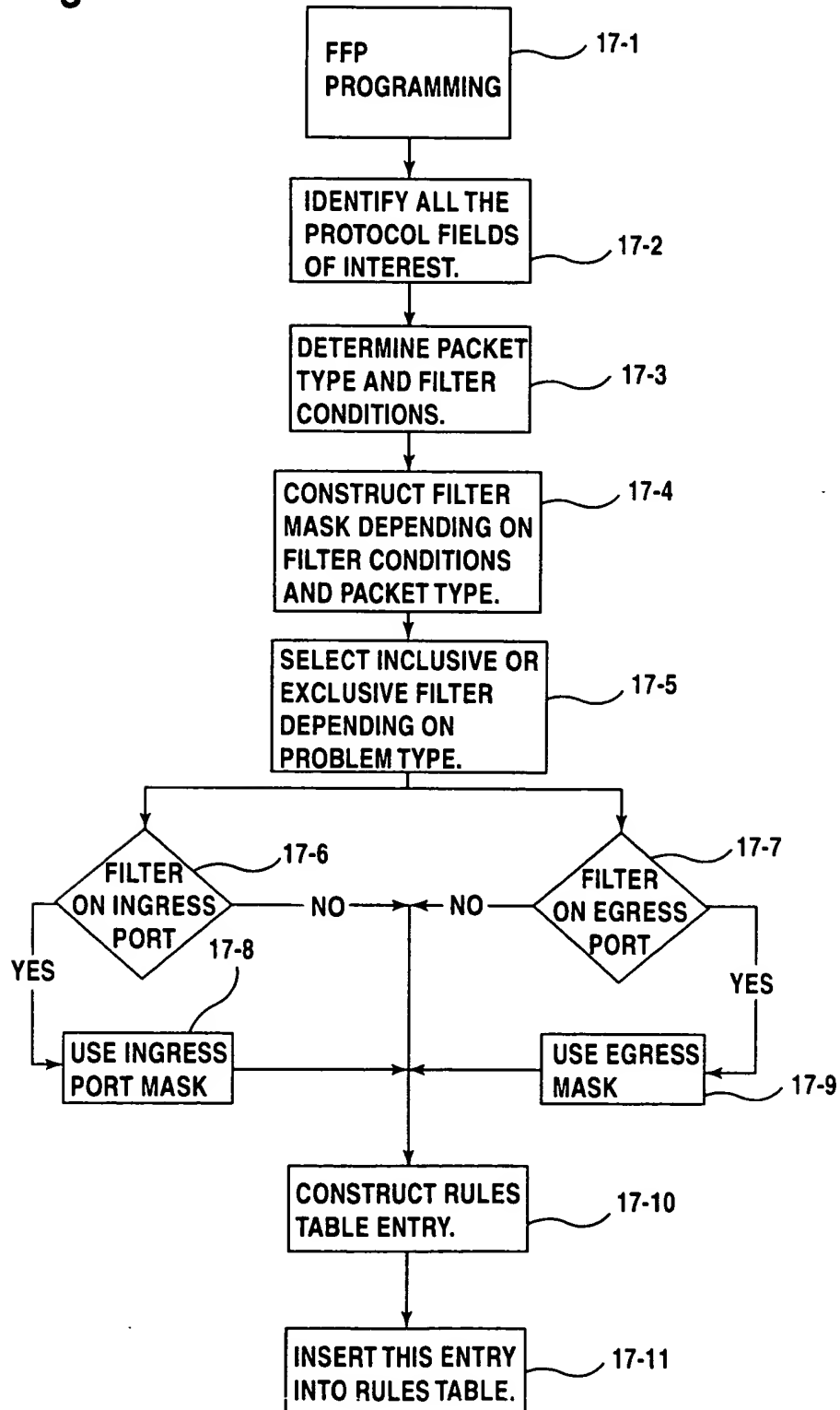


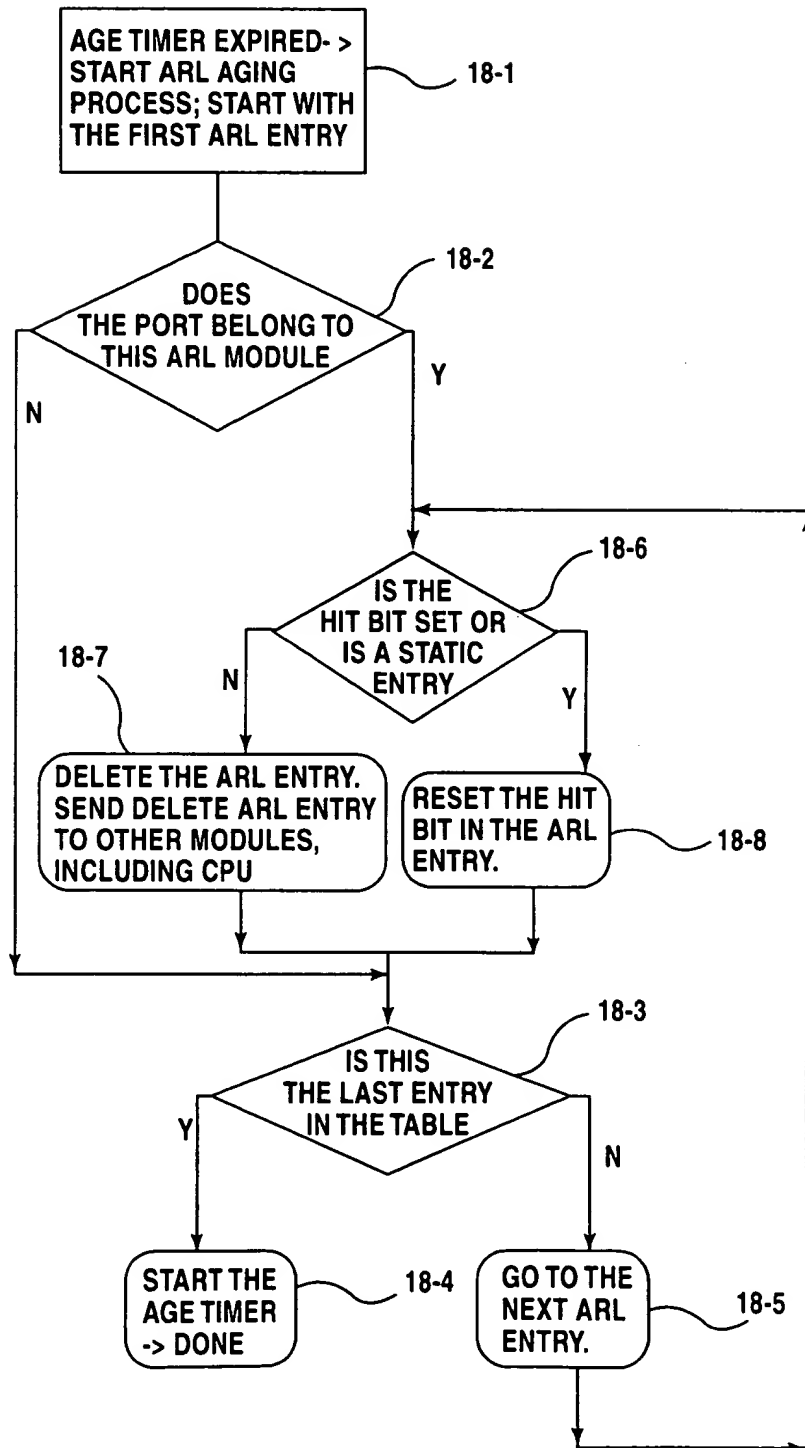
Fig.17

FFP PROGRAMMING FLOW CHART



00574230-11500

Fig.18



09742430-11500

Fig.19

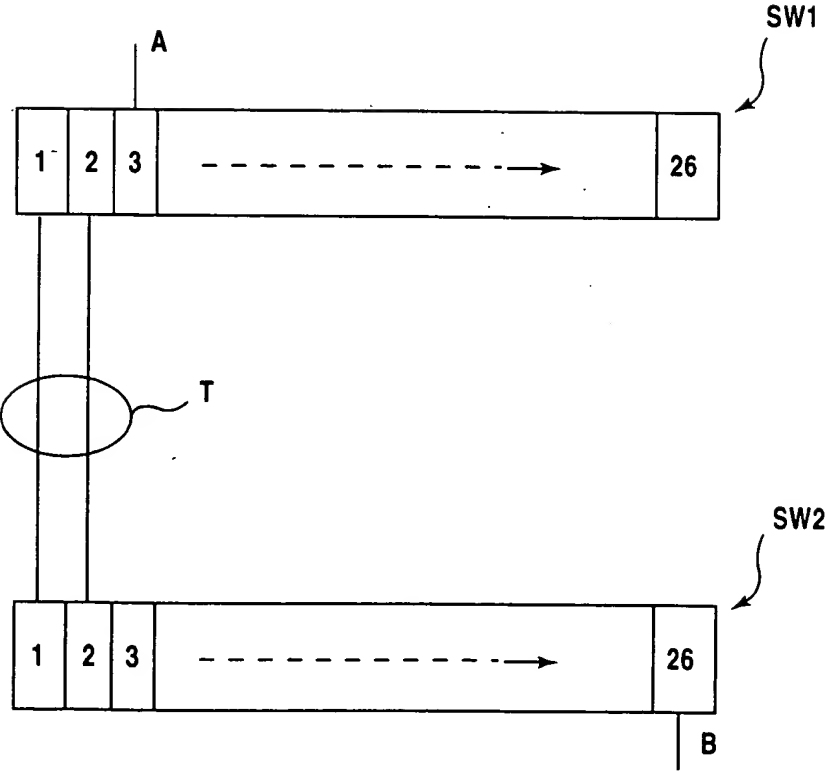


Fig.20

20/47

FIELD	HEADER	SIZE	OFFSET FOR ETHERNET II UNTAGGED	OFFSET FOR ETHERNET II TAGGED	OFFSET FOR SNAP UNTAGGED	OFFSET FOR SNAP TAGGED
DESTINATION MAC ADDRESS	MAC	6 BYTES	0	0	0	0
SOURCE MAC ADDRESS	MAC	6 BYTES	6	6	6	6
PROTOCOL TYPE	MAC	2 BYTES	12	16	20	24
DESTINATION TYPE	802.3	1 BYTE	NA	NA	14	18
SOURCE SAP	802.3	1 BYTE	NA	NA	15	19
802.1p PRIORITY	MAC	3 BITS	NA	14	NA	14
VLAN Id	MAC	12 BITS	NA	14+14b	NA	14+14b
TOS PRECEDENCE	IP	3 BITS	15	19	23	27
DIFFERENTIATED SERVICES	IP	6 BITS	15	19	23	27
SOURCE IP ADDRESS	IP	4 BYTES	26	30	34	38
DESTINATION IP ADDRESS	IP	4 BYTES	30	34	38	42
PROTOCOL	IP	1 BYTE	23	27	31	35
SOURCE PORT	TCP/ UDP	2 BYTES	34	38	42	46
DESTINATION PORT	TCP/ UDP	2 BYTES	36	40	44	48
TCP CONTROL FLAGS (FOR ALIGNING ON BYTE BOUNDARY 2 BITS OF RESERVED BITS PRECEDING THIS FIELD IS INCLUDED)	TCP	1 BYTE	47	51	55	59
DATA AT OFFSET 1	NA	8 BYTES	DATA OFFSET1 FROM START OF IP/IPX HEADER	DATA OFFSET1 FROM START OF IP/IPX HEADER	DATA OFFSET1 FROM START OF IP/IPX HEADER	DATA OFFSET1 FROM START OF IP/IPX HEADER
DATA AT OFFSET 2	NA	8 BYTES	DATA OFFSET2 FROM START OF IP/IPX HEADER	DATA OFFSET2 FROM START OF IP/IPX HEADER	DATA OFFSET2 FROM START OF IP/IPX HEADER	DATA OFFSET2 FROM START OF IP/IPX HEADER
DATA AT OFFSET 3	NA	8 BYTES	DATA OFFSET3 FROM START OF IP/IPX HEADER	DATA OFFSET3 FROM START OF IP/IPX HEADER	DATA OFFSET3 FROM START OF IP/IPX HEADER	DATA OFFSET3 FROM START OF IP/IPX HEADER
DATA AT OFFSET 4	NA	8 BYTES	DATA OFFSET4 FROM START OF IP/IPX HEADER	DATA OFFSET4 FROM START OF IP/IPX HEADER	DATA OFFSET4 FROM START OF IP/IPX HEADER	DATA OFFSET4 FROM START OF IP/IPX HEADER

094230-11500

Fig.21a

FILTER MASK FORMAT:

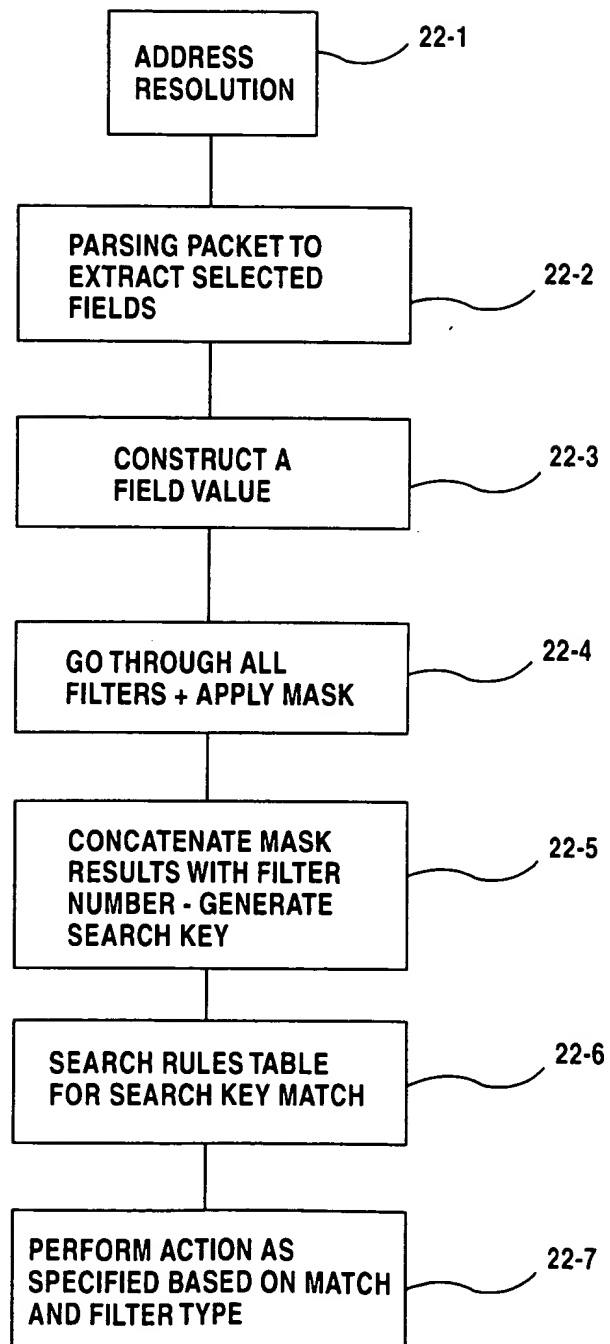
FILTER ENABLE (1b)	COUNTER (5b)	Rem PORT (1b)	OUTPUT MOD (5b)	OUTPUT PORT (6b)	TOS Prec (3b)	Diff Serv (6b)	802.1p PRIOR (3b)	
NMA ENB (1b)	NO MATCH ACTION (10b)	DATA OFFSET 4 (7b)	DATA OFFSET 3 (7b)	DATA OFFSET 2 (7b)	DATA OFFSET 1 (7b)	INGRESS PORT MASK (6b)	EGRESS MOD ID MASK (5b)	EGRESS PORT MASK (6b)
FIELD MASK								

Fig.21b

FIELD MASK FORMAT:

DEST MAC ADDR (6B)	SRC MAC ADDR (6B)	PROT TYPE (2B)	DEST SAP (1B)	SRC SAP (1B)	802.1 p PRIO (3b)	VLAN ID (12b)	TOS PREC (3b)	DIFF SERV (6b)	SRC IP ADDR (4B)	DEST IP ADDR (4B)	PROT IP (1B)	SRC PORT (2B)	DEST PORT (2B)
TCP CNTR FLAGS (1B)			DATA 1 (8B)		DATA 2 (8 B)		DATA 3 (8B)		DATA 4 (8B)				

Fig.22



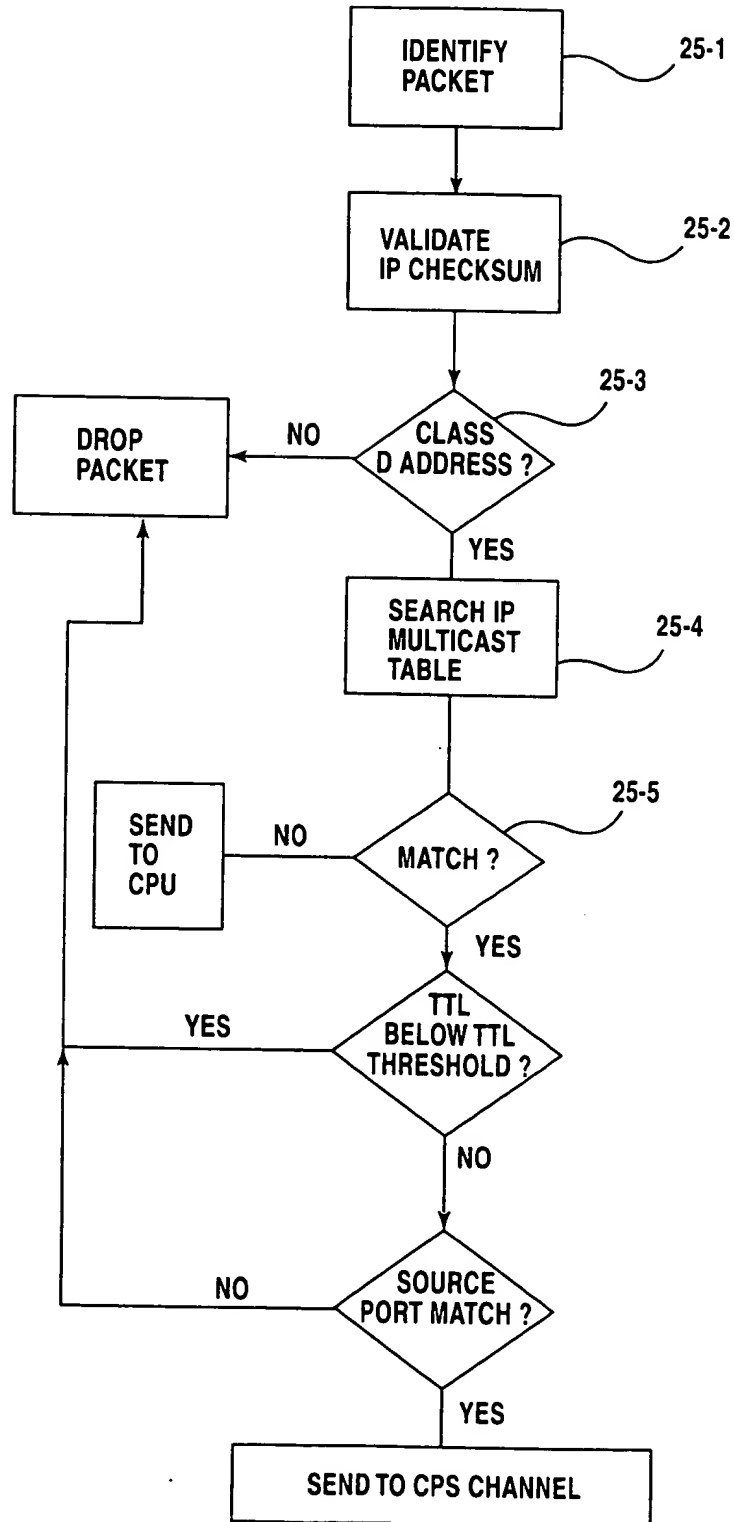
22

[illegible]

Fig.24

30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
SOURCE IP ADDRESS															
MULTICAST IP ADDRESS															
r	L3 PORT BITMAP														
L3 MODULE BITMAP															
UNUSED										TTL THRESHOLD		SOURCE PORT			

Fig.25



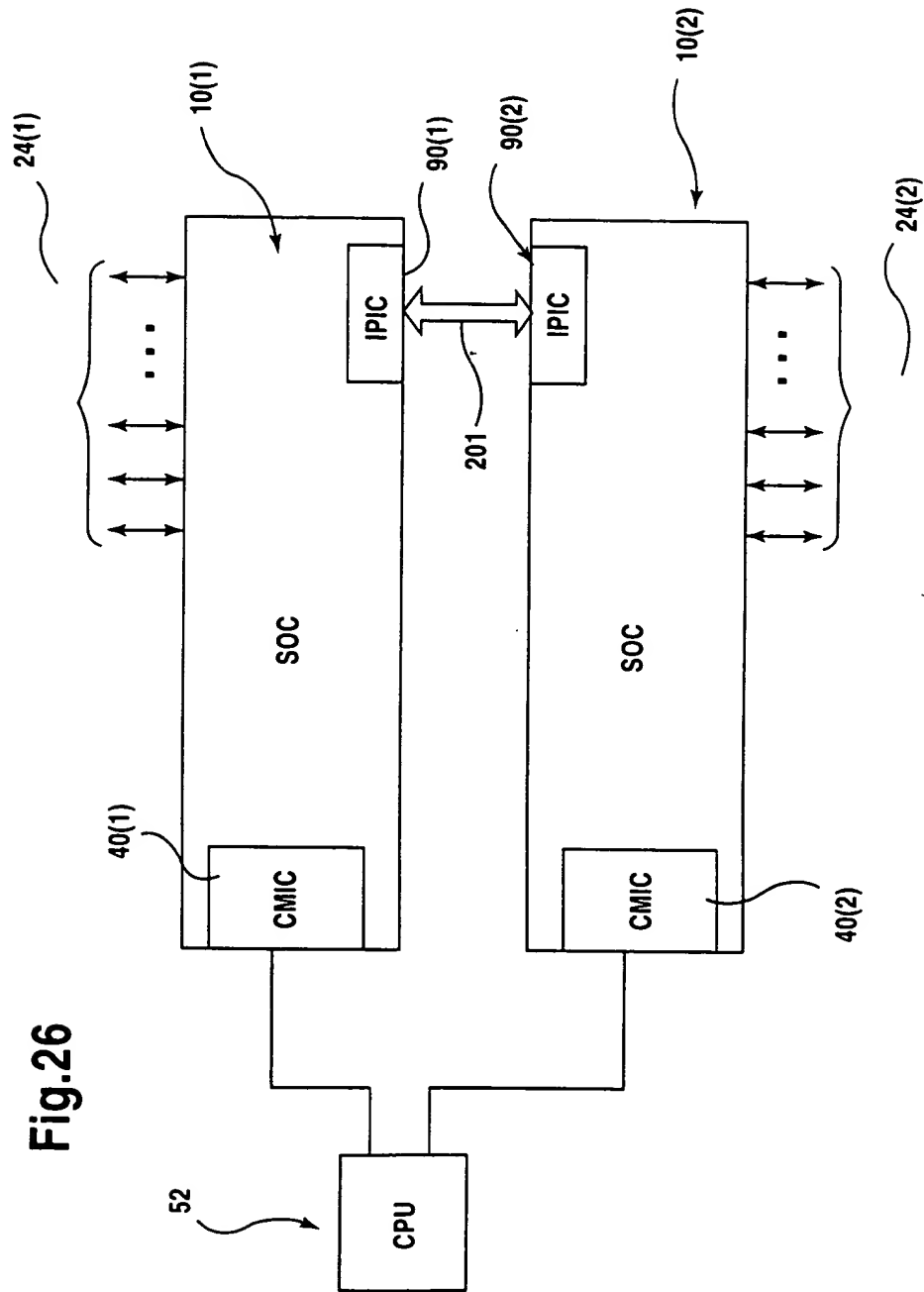


Fig.27a

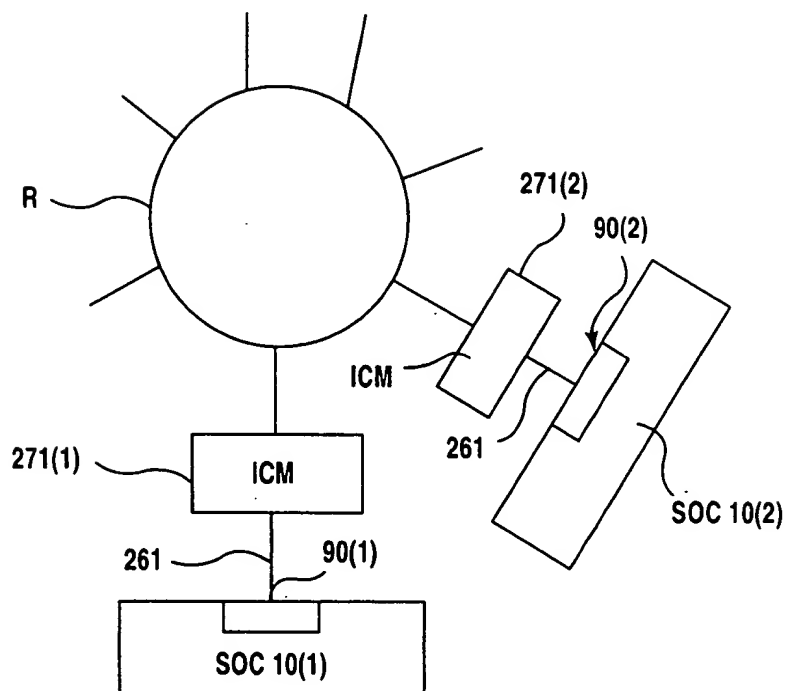


Fig.27b

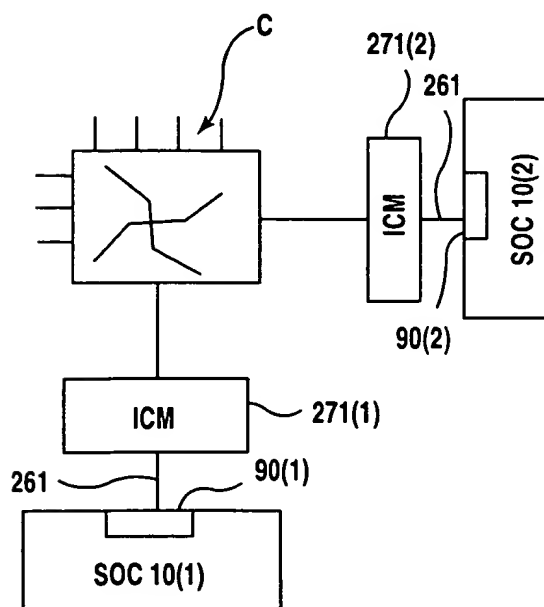


Fig.28

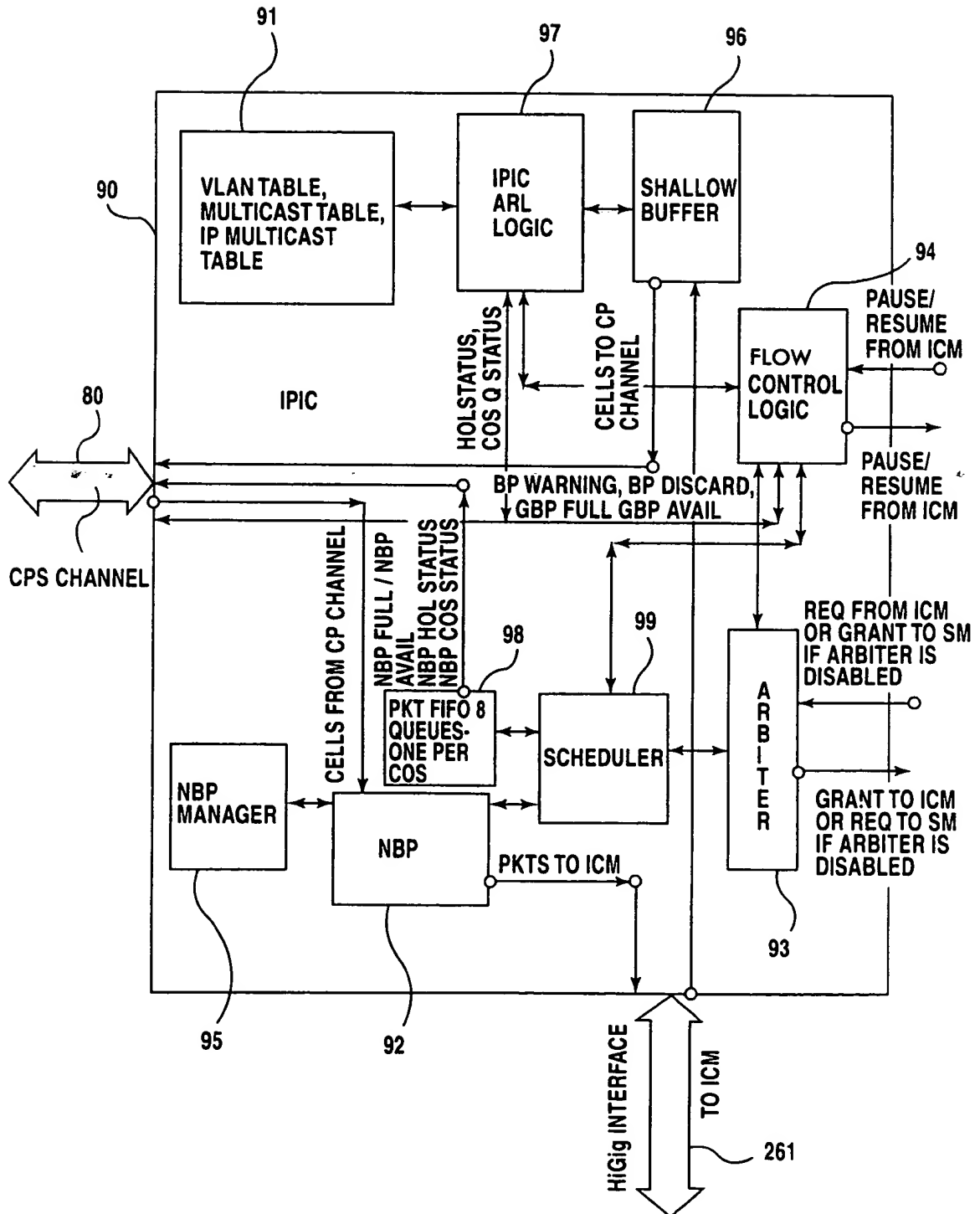
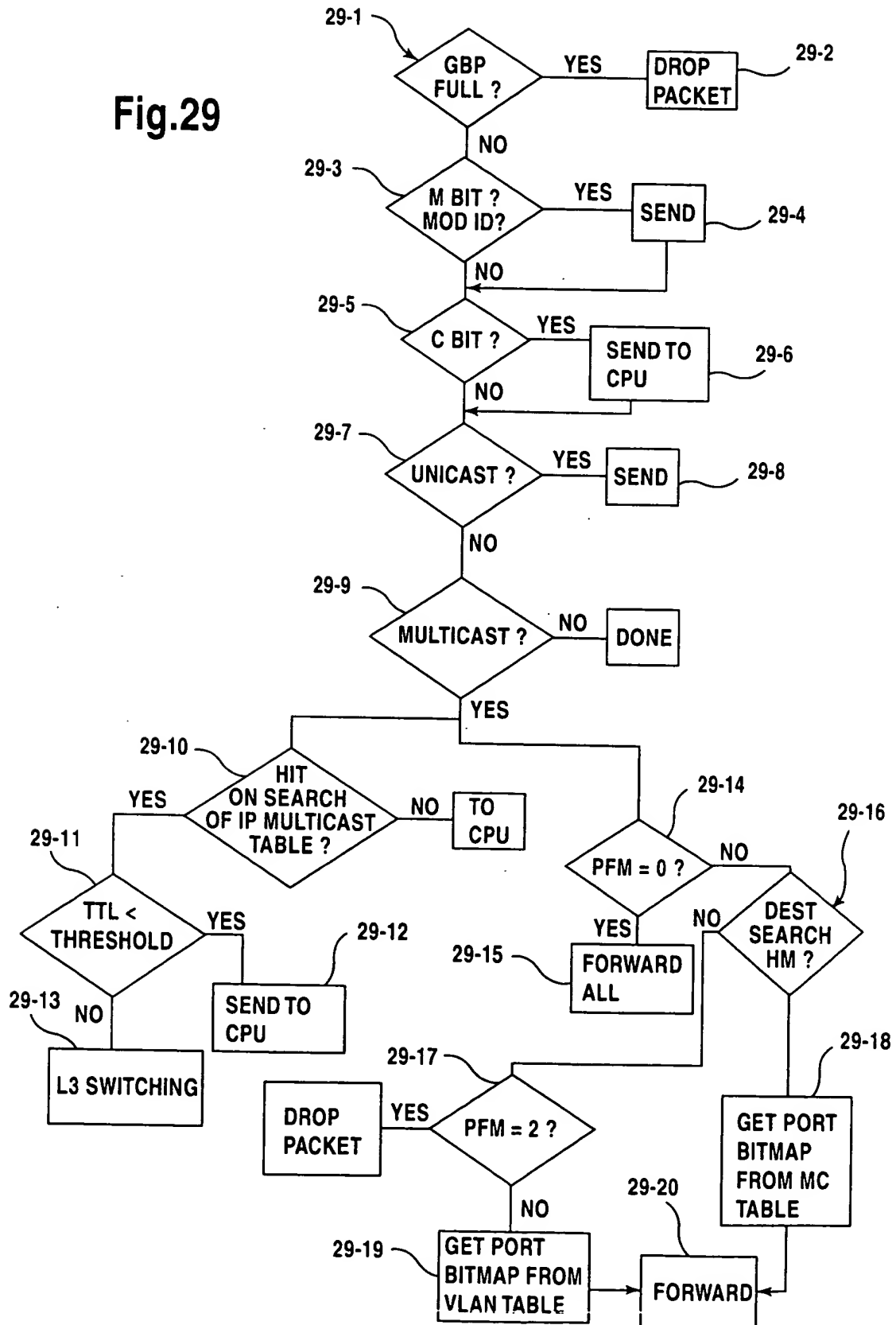
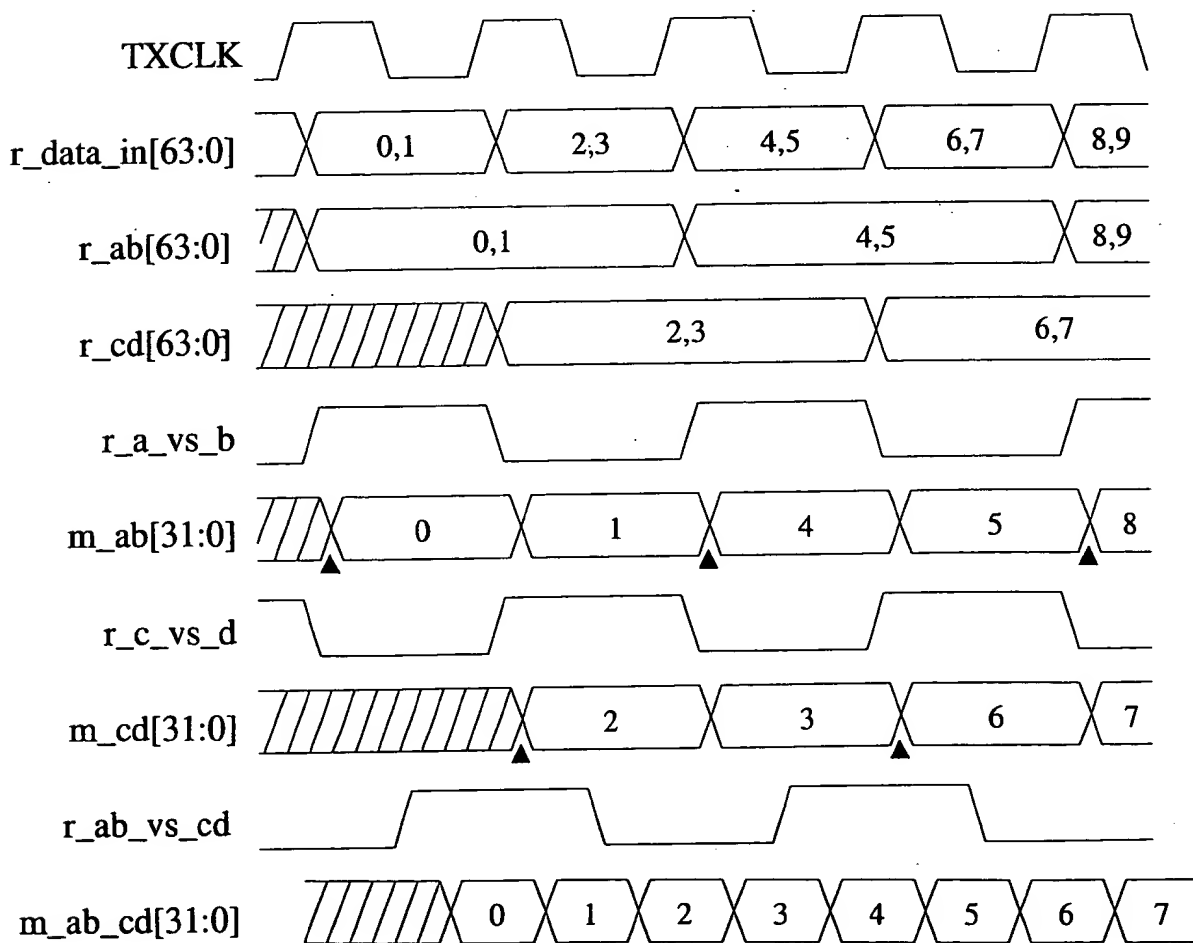
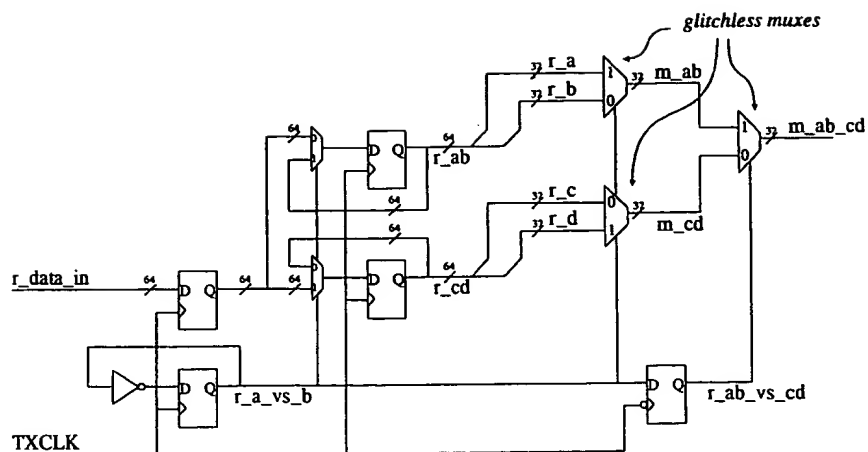


Fig.29





▲ = function hazard

Fig.30

COS QUEUE (3b)	C P F	NCA (2b)	802.1p PRIORITY (3b)	RATE COUNTER (8b)	RATE COUNTER THRESHOLD (8b)	RATE DISCARD THRESHOLD ID (8b)	NEW CODE POINT (6b)	NEW COS QUEUE (3b)	NEW 802.1 PRIORITY (3b)
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094430-11500

Fig.31

OFFSET FIELD	OFFSET 1	OFFSET 2	OFFSET 3	OFFSET 4
000	0-15	16-31	32-47	48-63
001	8-23	24-39	40-55	56-71
010	16-31	32-47	48-63	64-79
011	24-39	40-55	56-71	72-87
100	32-47	48-63	64-79	80-95
101	40-55	56-71	72-87	88-103
110	48-63	64-79	80-95	96-111
111	56-71	72-87	88-103	104-119

OFFSET = 0000-1111

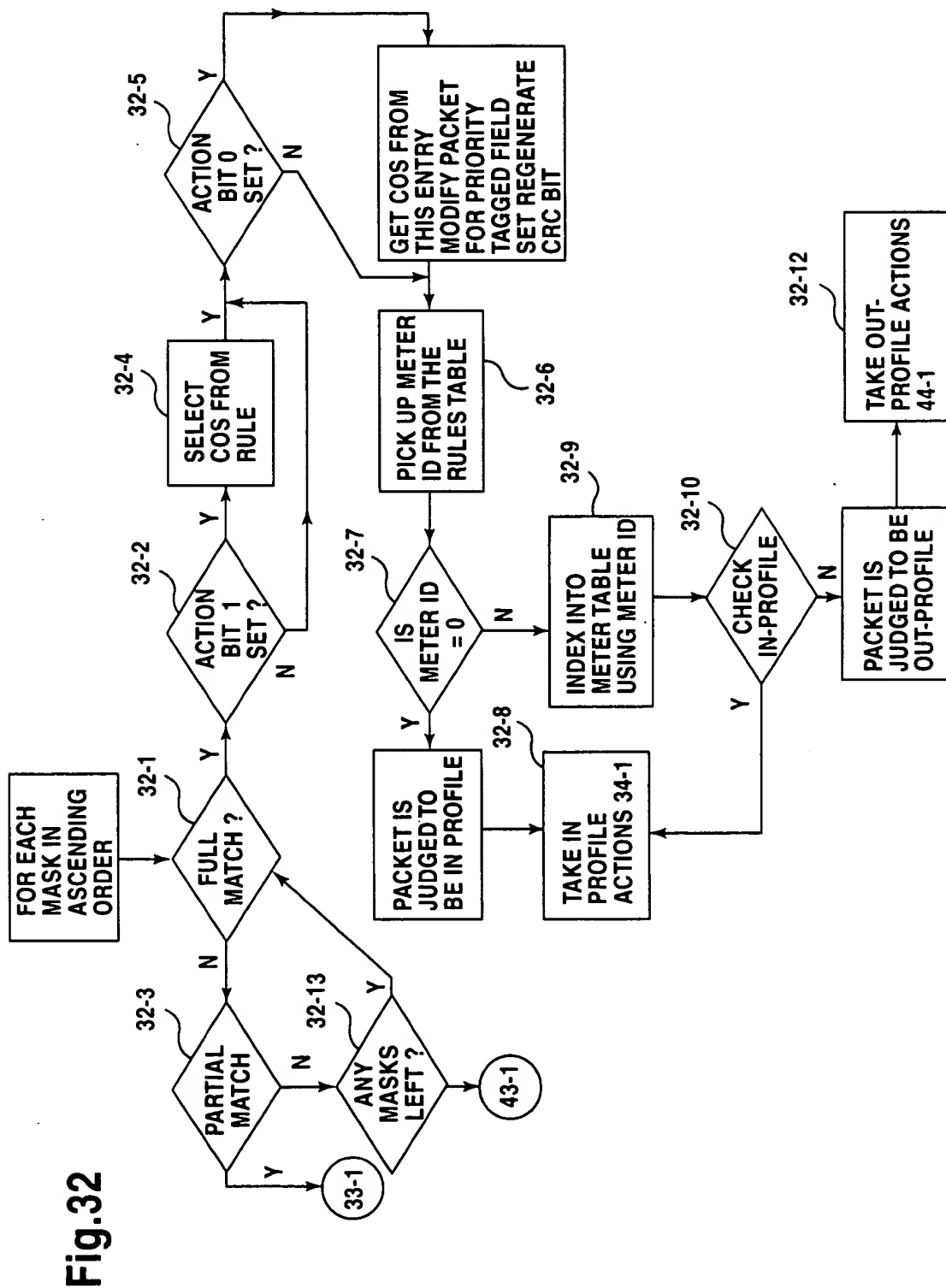


Fig. 33

```
graph TD
    K4([K4  
(PARTIAL MATCH)]) --> J1(( ))
    J1 --> D1{33-1  
IS  
BIT 8 OF  
NOMATCH ACTION  
BIT SET}
    J1 --> D2{33-3  
IS  
BIT 9 OF  
NOMATCH ACTION  
FIELD SET}
    J1 --> D3{33-5  
IS  
BIT 10 OF  
NOMATCH ACTION  
FIELD SET}
    
    D1 -- Y --> P1[33-2  
THE 802.1p PRIORITY  
VALUES IS PICKED  
FROM THE TOS  
PRECEDENCE FIELD  
IN THE IP HEADER  
(IF PACKET IS IPV4  
ONLY). SET  
REGENERATE CRC  
IN THE MESSAGE.]
    D1 -- N --> J2(( ))
    
    D2 -- Y --> P2[33-4  
THE TOS PRECEDENCE  
VALUE IS PICKED UP  
FROM THE 802.1p  
PRIORITY FIELD (ONLY  
IF PKT IS IPV4)  
RECALCULATE IP  
CHECKSUM. SET  
REGENERATE CRC IN  
THE MESSAGE.]
    D2 -- N --> J2
    
    D3 -- Y --> P3[33-6  
REPLACE TOS  
PRECEDENCE FIELD  
IN IP HEADER WITH  
TOS, P FIELD FROM  
THE FILTER MASK.  
RECALCULATE IP  
CHECKSUM. SET  
REGENERATE CRC  
IN THE MESSAGE. (IF  
PKT IS IPV4)]
    D3 -- N --> J2
    
    J2 --> K7([K7])
```

The flowchart, labeled Fig. 33, illustrates the processing of a partial match (K4). It begins with a decision diamond (33-1) checking if Bit 8 of the Nomatch Action Bit Set is set. If 'Y' (Yes), it proceeds to process block 33-2, which picks 802.1p priority values from the TOS precedence field in the IP header (if packet is IPv4 only) and sets the regenerate CRC in the message. If 'N' (No), it proceeds to decision diamond (33-3) checking if Bit 9 of the Nomatch Action Field Set is set. If 'Y', it proceeds to process block 33-4, which picks the TOS precedence value from the 802.1p priority field (only if packet is IPv4), recalculates the IP checksum, and sets the regenerate CRC in the message. If 'N', it proceeds to decision diamond (33-5) checking if Bit 10 of the Nomatch Action Field Set is set. If 'Y', it proceeds to process block 33-6, which replaces the TOS precedence field in the IP header with the TOS, P field from the filter mask, recalculates the IP checksum, and sets the regenerate CRC in the message (if packet is IPv4). If 'N', it proceeds to block K7. All paths eventually lead to block K7.

Fig.34

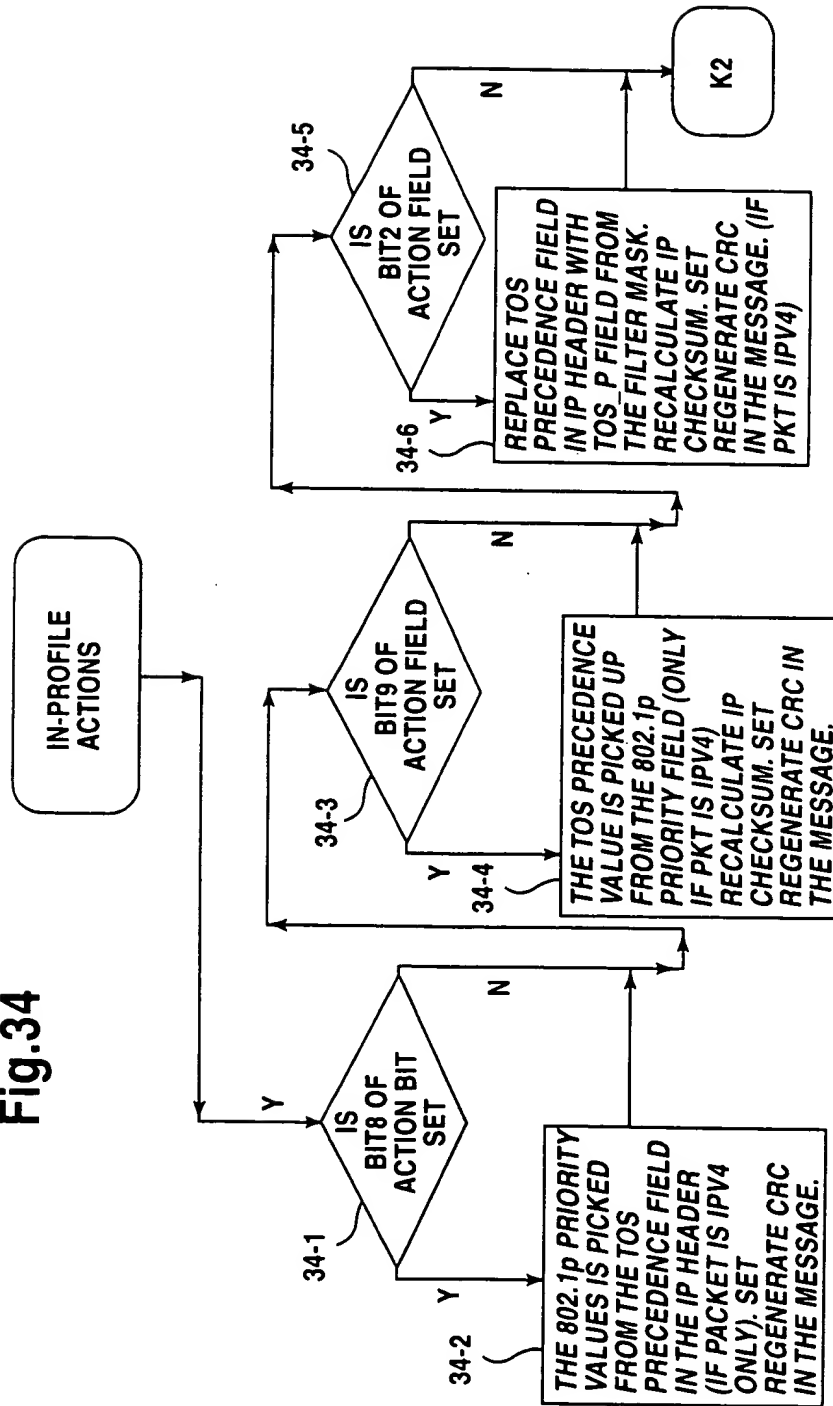
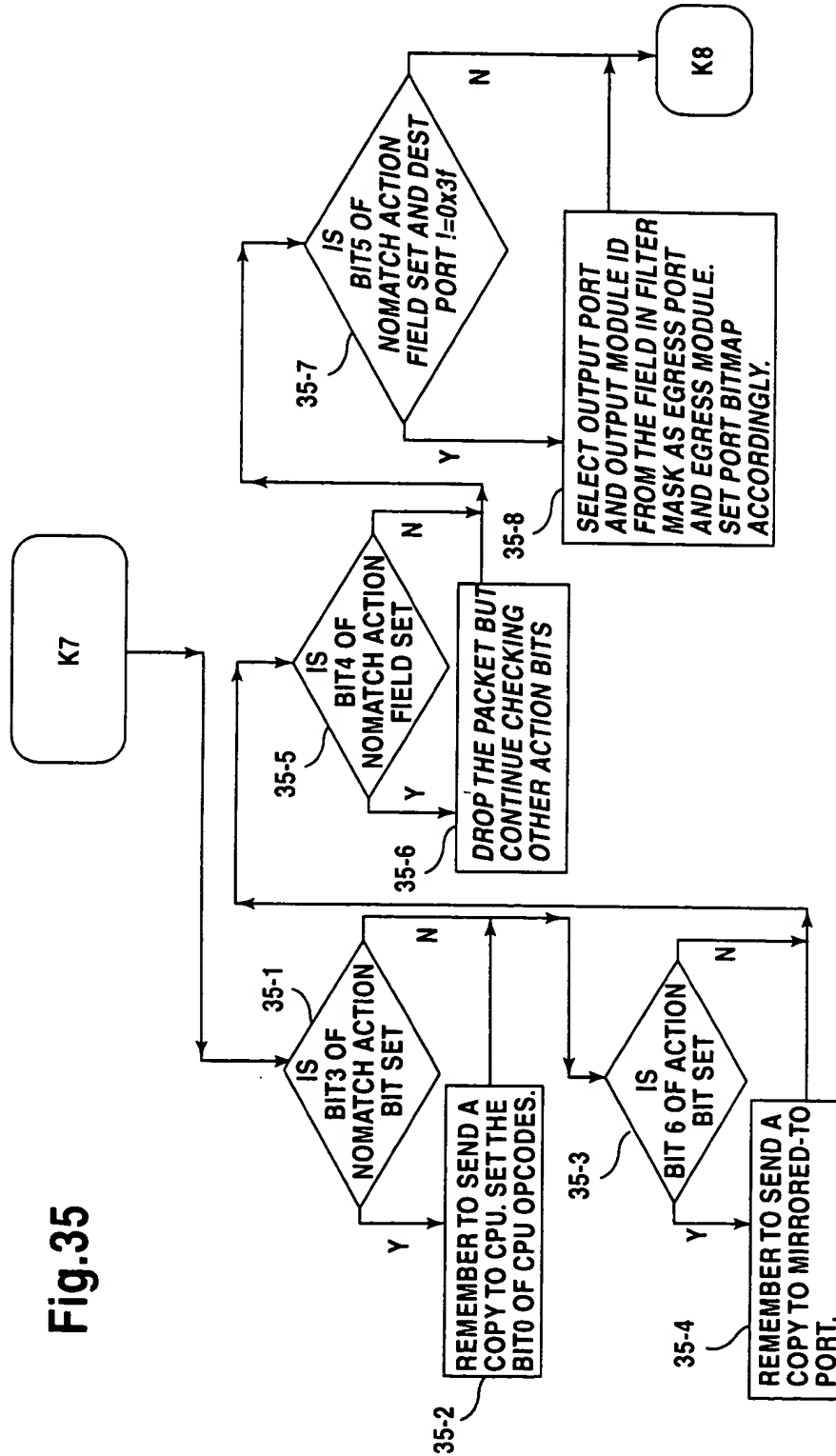


Fig.35



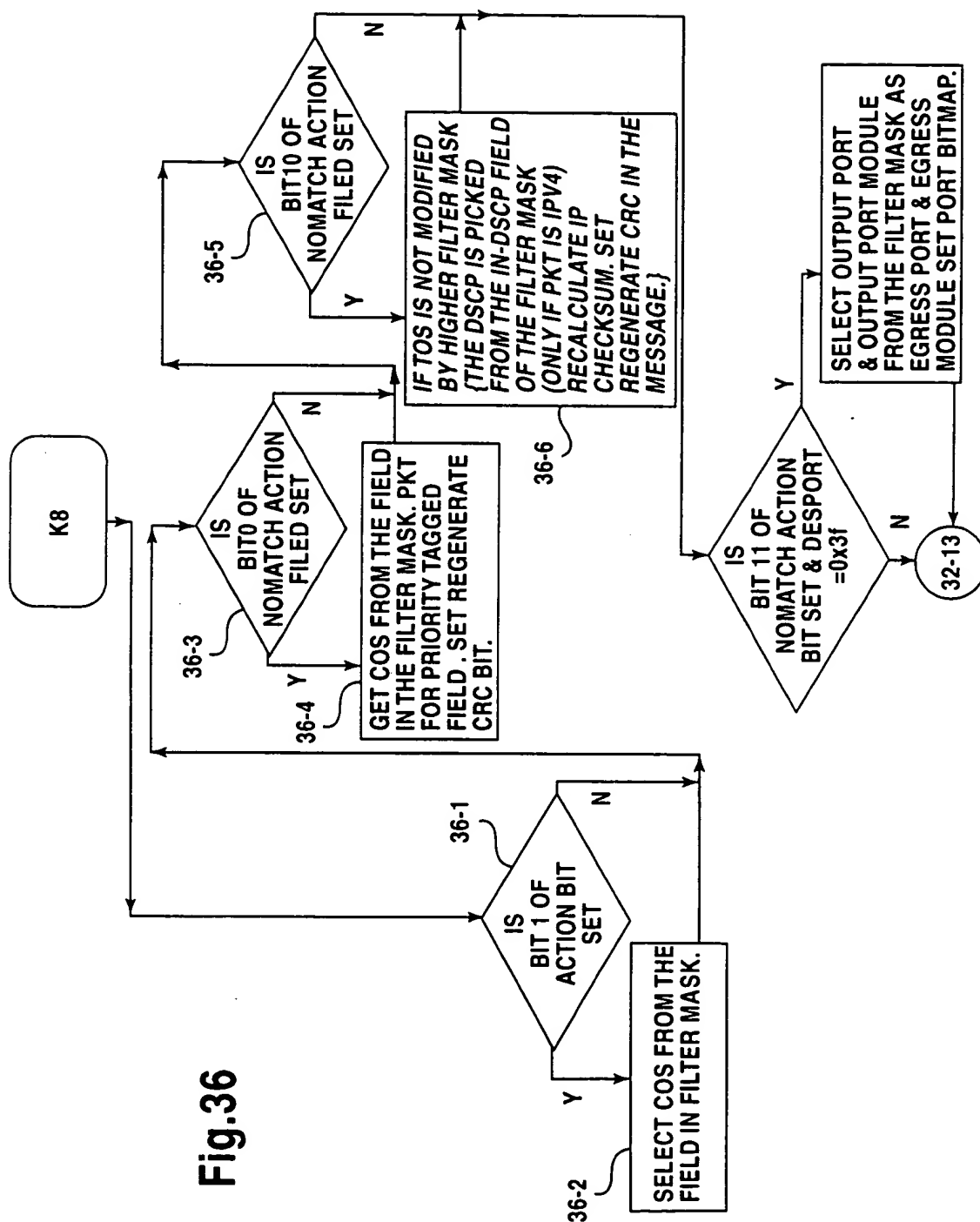


Fig.36

Fig.37

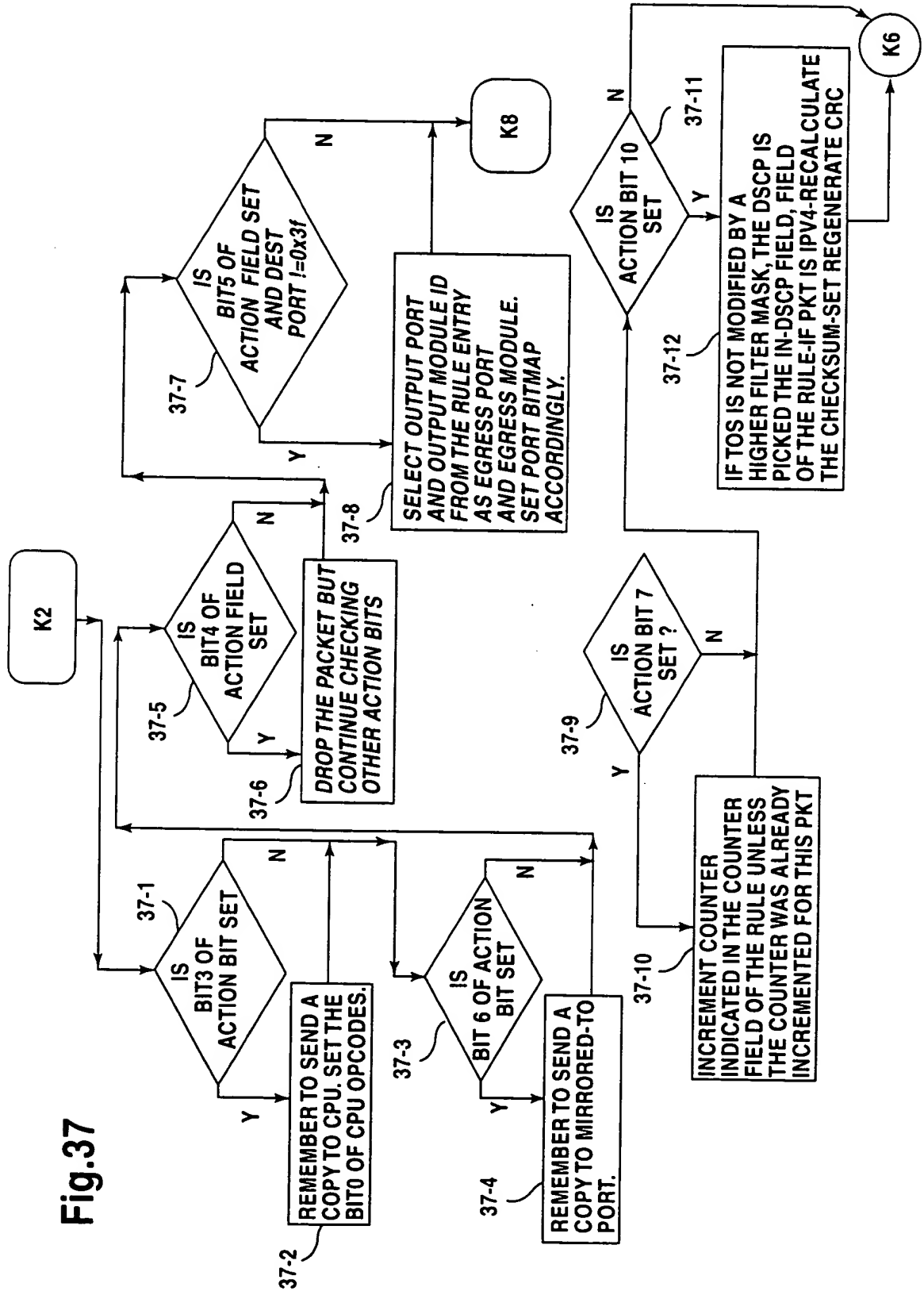
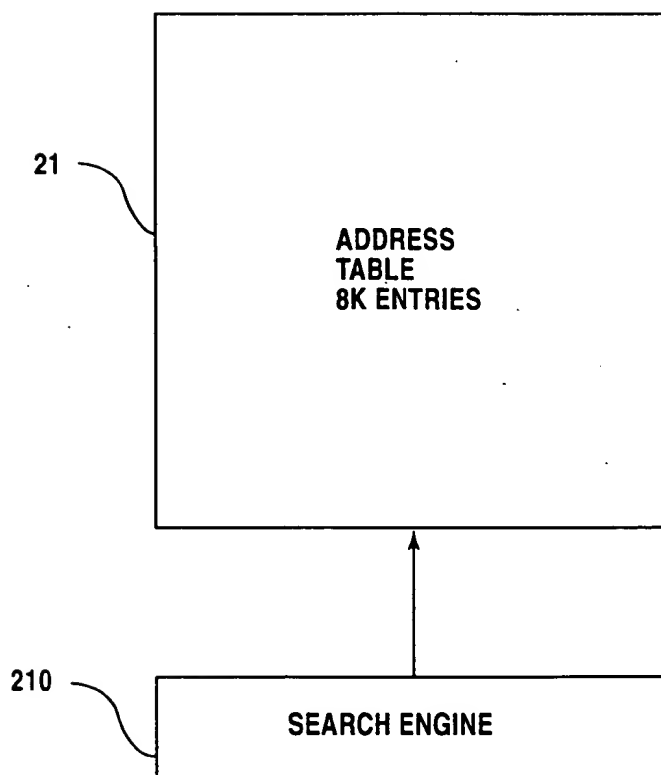


Fig.38



09712130-11500

Fig.40a

ADDRESS	ENTRY
31	AF
30	AE
29	AD
28	AC
27	AB
26	AA
25	Z
24	Y
23	X
22	W
21	V
20	U
19	T
18	S
17	R
16	Q
15	P
14	O
13	N
12	M
11	L
10	K
9	J
8	I
7	H
6	G
5	F
4	E
3	D
2	C
1	B
0	A

21

211

212

ADDRESS	ENTRY
30	AE
28	AC
26	AA
24	Y
22	W
20	U
18	S
16	Q
14	O
12	M
10	K
8	I
6	G
4	E
2	C
0	A

ADDRESS	ENTRY
31	AF
29	AD
27	AB
25	Z
23	X
21	V
19	T
17	R
15	P
13	N
11	L
9	J
7	H
5	F
3	D
1	B

21

Fig.40b

00577-057260

Fig.41a

ADDRESS	ENTRY
31	NN
30	MM
29	LL
28	KK
27	JJ
26	GH
25	CF
24	CC
23	BE
22	BD
21	BC
20	BA
19	AC
18	AB
17	AA
16	Y
15	X
14	V
13	T
12	S
11	R
10	Q
9	N
8	M
7	L
6	K
5	J
4	G
3	E
2	D
1	C
0	B

21

211

212

ADDRESS	ENTRY
30	MM
28	KK
26	GH
24	CC
22	BD
20	BA
18	AB
16	Y
14	V
12	S
10	Q
8	M
6	K
4	G
2	D
0	B

ADDRESS	ENTRY
31	NN
29	LL
27	JJ
25	CF
23	BE
21	BC
19	AC
17	AA
15	X
13	T
11	R
9	N
7	L
5	J
3	E
1	C

Fig.41b

005TF"08T2T260

Fig.42

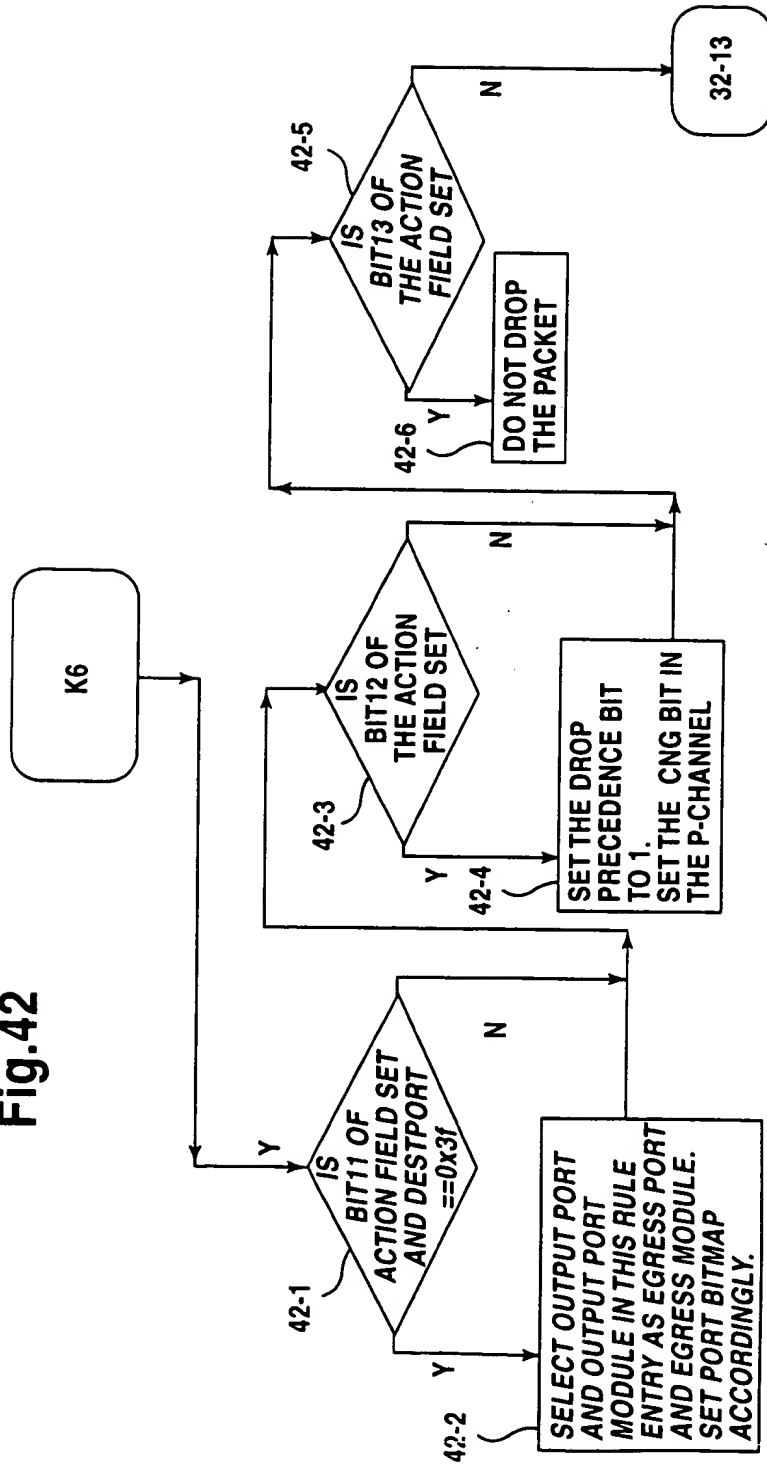


Fig.43

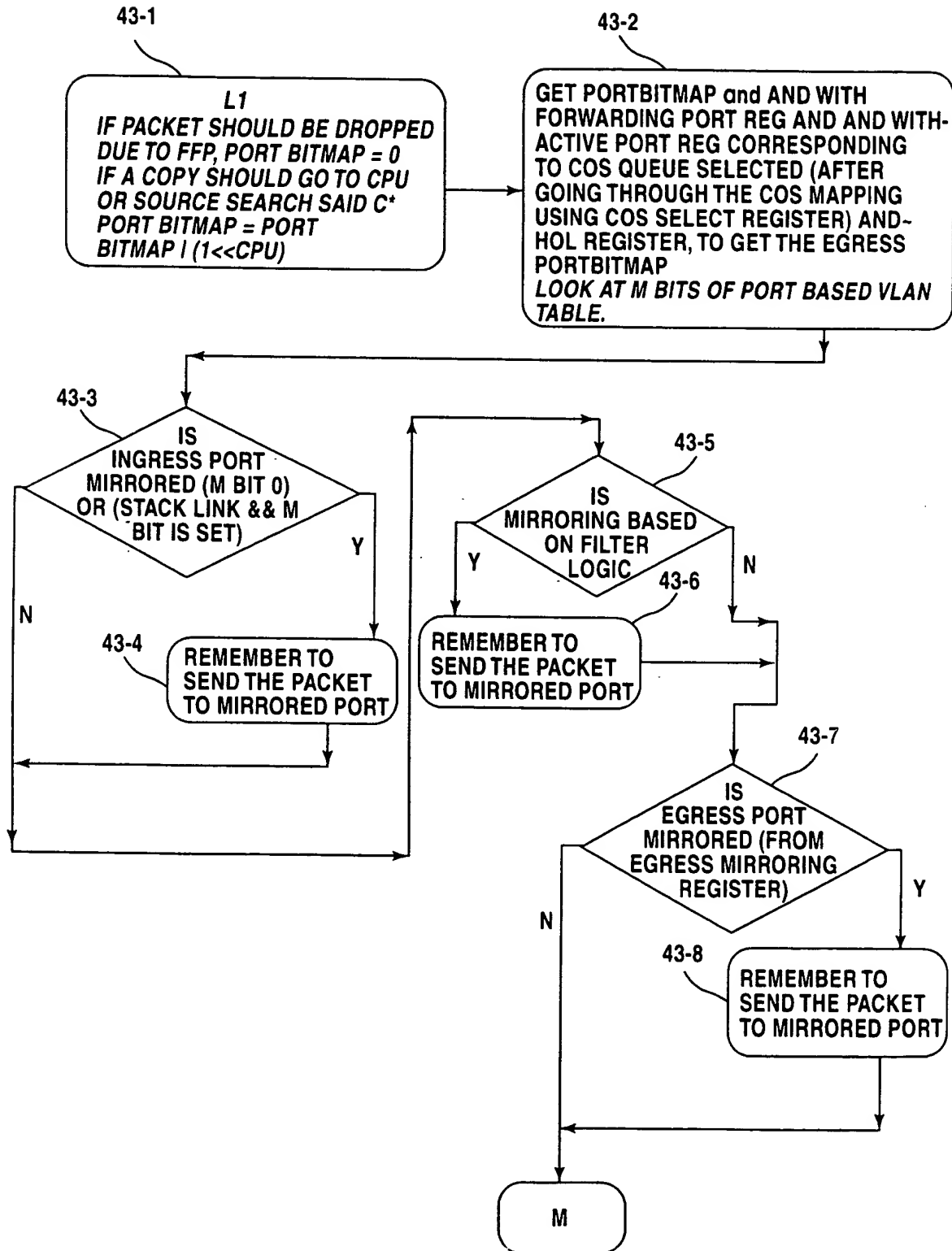
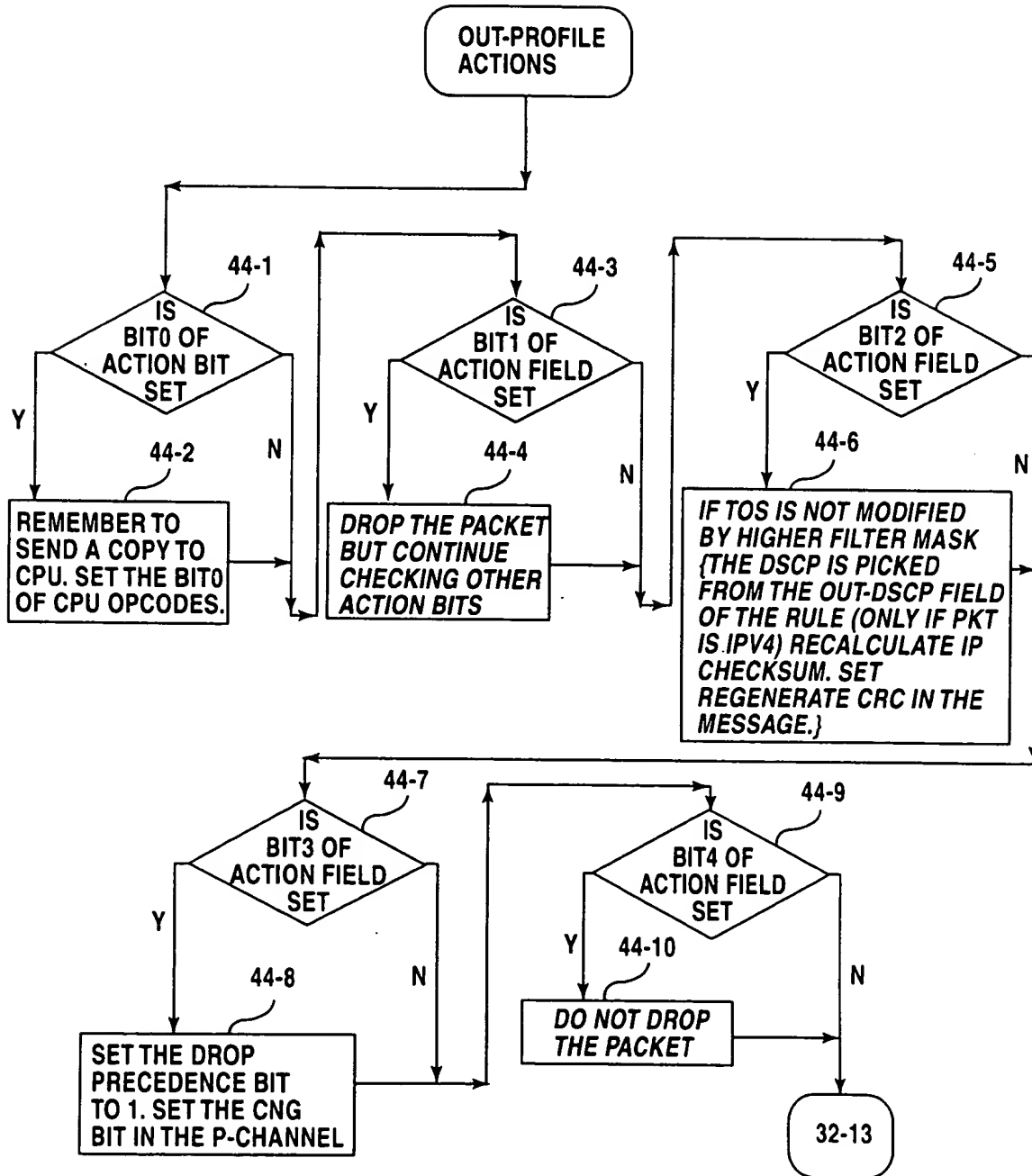
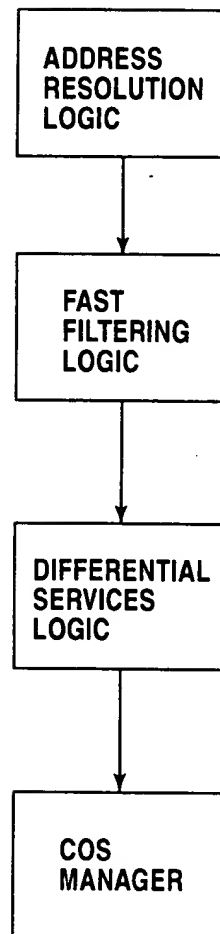


Fig.44



00512130-111500

Fig.45



005TTF"DET2F260

Fig.46

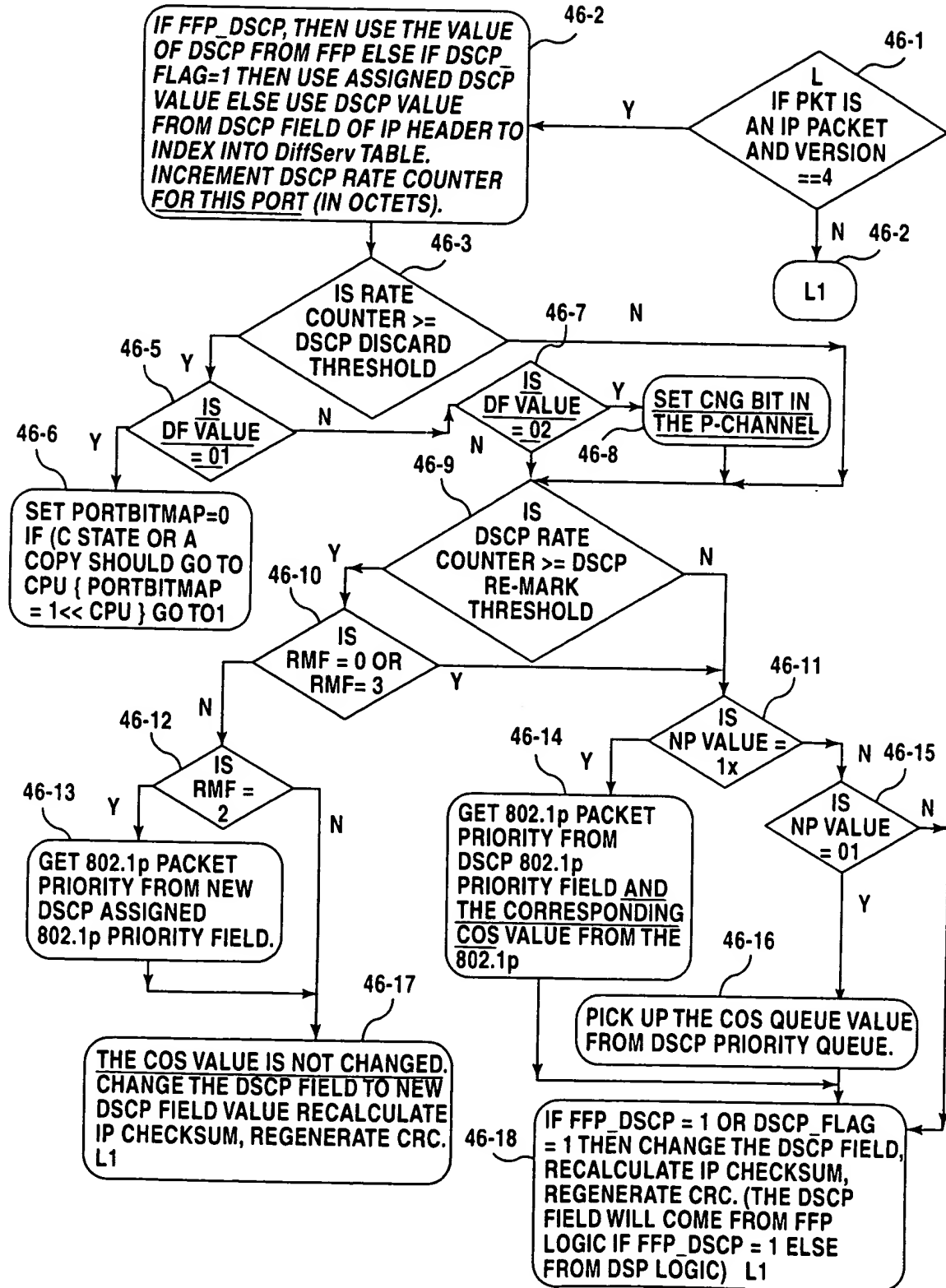
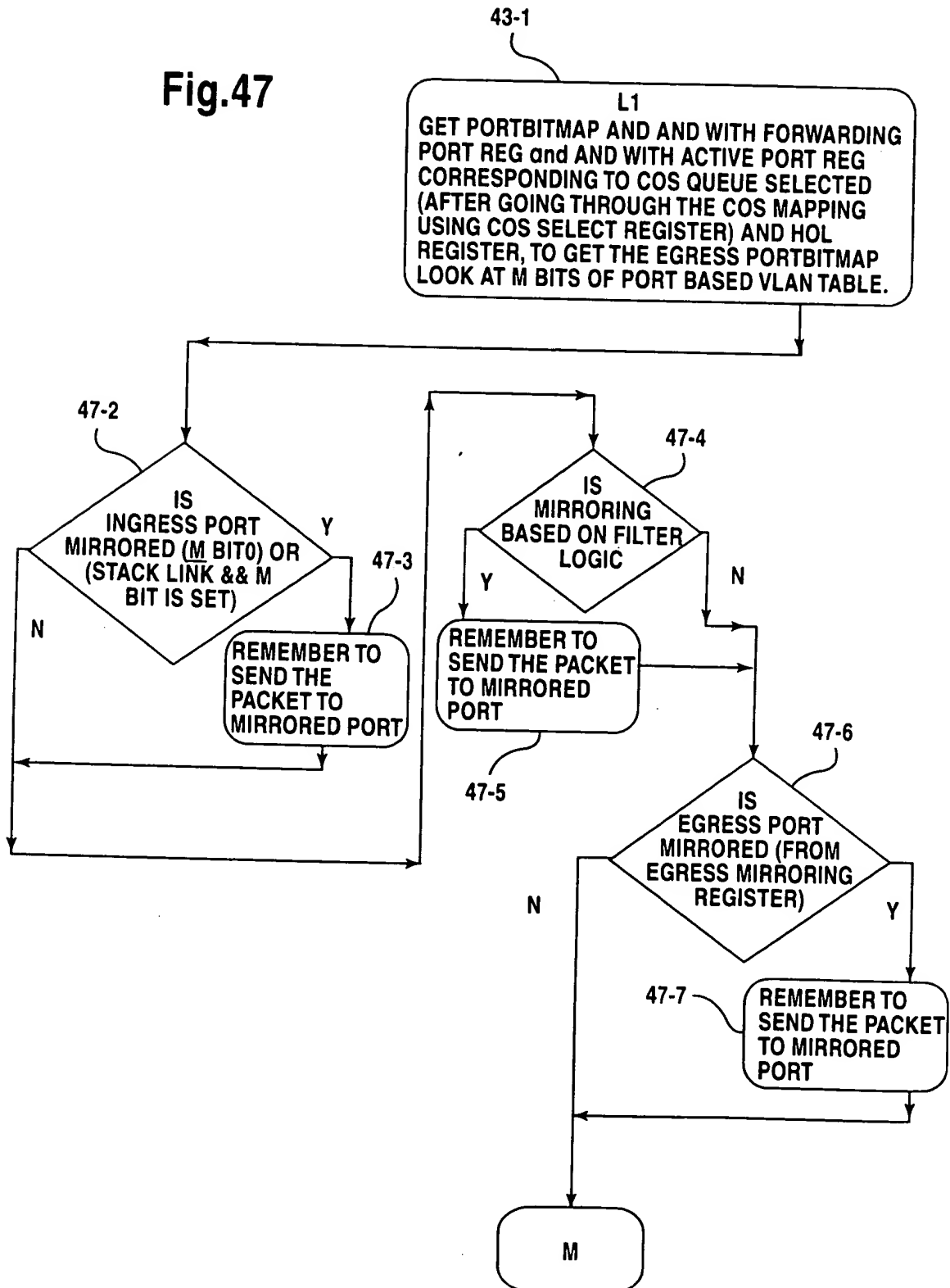


Fig.47



09712130-11500

097130-11600

